



# ILLUMINATING GLASSWARE



*East Orange N.J.*

*Enterprise 6-4-81*

CATALOG NO. 42

**KOPP GLASS INC. Swissvale, Pa.**

N.I.A. File No. 315-237









I L L U M I N A T I N G

G L A S S W A R E

*Catalog No. 42*

K O P P   G L A S S ,   I N C . ,   S W I S S V A L E ,   P A .

★ KOPP

*The name Kopp has been closely associated with the development  
and manufacture of fine quality Glass for over fifty years!*



# Foreword

We take pleasure in presenting to you this Catalog illustrating our General Line of Illuminating Glassware for Commercial and Residential Lighting.

We manufacture an extensive line of Illuminating Glassware in Modern, Conventional and Gothic designs, for Schools, Colleges, Churches, Hospitals, Commercial and other Public Buildings; also for Residential lighting. These goods are made in various types of Glass, such as our well known Delica White Cased, Daylight Cased, Alabaster Cased, Nicco Opal, Ivory and Crystal. A complete description of these Glasses is given on Page Four of this Catalog.

Our Lighting Units have been carefully designed to give the maximum light output commensurate with good diffusion. We feel that we can offer you Lighting Units of the best quality, of pleasing and harmonious designs, while at the same time maintaining a high degree of efficiency.

It is our policy to make a product of quality and merit at moderate prices. Considering the efficiency and service obtained from our Units, we believe they will prove to be the most economical.

We have a modern Plant, well equipped, and employ highly skilled and experienced workmen, which enables us to offer to the Trade quality merchandise which will meet all the exacting requirements of modern "Light Conditioning with Glass."

The position we have established in the Lighting Field has been attained by the application of skill and knowledge gained from our many years of practical experience and by our untiring efforts toward the development of new Glasses, and the creation of new Designs.

In addition to our General Line of Illuminating Glassware, we also manufacture Street Lighting Globes, Pressed Crystal Parts for use in Lamps and Fixtures, etc., all maintained to highest quality standards. Prices and any other information desired will be gladly forwarded on your request.

**KOPP GLASS, Incorporated**



# *General Information . .*

**TERMS**—Our Terms are 1% if paid in 15 days: net 30 days from date of invoice. All shipments are F.O.B. our factory, Swissvale, Pa.

**CLAIMS**—All goods are carefully inspected and checked before packing. They are securely packed to insure delivery in perfect condition. They are sold only F.O.B. our Factory. We cannot, therefore, be responsible for any goods damaged or lost in transit as our responsibility ceases absolutely as soon as a bill of lading is issued. We shall, however, be glad to assist you in every possible manner in collecting your claims for damage. We will, on request, send you duplicate bill of lading, and also, if desired, a duplicate invoice. We are not responsible for collection of claims or replacement of merchandise.

Claims for loss or damage should be made to the Transportation Company immediately upon receipt of shipment, and customer should require carrier's agent to acknowledge shortage or damage on delivery receipt.

**NEVER REFUSE A SHIPMENT**—If you should refuse a shipment because of damages, the Transportation Company will pay no attention except to ask for disposition of the goods, and if no disposition is made, the law allows them to sell the goods for their freight and storage charges. In order to secure attention the goods must first be received and freight paid.

If packages are received in apparent good order, but on opening, contents are found missing, damaged, or broken, call freight agent to view same, and have him mark freight bill covering the shipment "Concealed Damage." This is absolutely necessary to place your claim with the Transportation Company.

**RETURNED GOODS**—Merchandise shipped as ordered will not be accepted for return without our permission. If return shipments are authorized they will be subject to the transportation charges, as well as a reasonable charge for handling.

**STANDARD PACKAGES**—All items are packed in specially designed cartons with necessary interior parts to insure delivery in good condition. Our standard packages contain as few of each article as is economically practical, and for this reason we do not solicit orders for less than standard package quantities.

The weights given are approximate, and are therefore subject to the usual tolerances.



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841.....	36	955.....	32	1113.....	6
842.....	36	958.....	37	1114.....	6
846.....	35	959.....	20	1116.....	6
847.....	37	967.....	34	1116½.....	5
849.....	37	974.....	21 & 23	1118.....	6
850.....	37	976.....	22 & 23	1118½.....	5
852.....	16	977.....	22 & 23	1126.....	5
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*For Prices of Glassware illustrated in Catalog No. 42, See Price List No. 42*



## • *Various Glasses produced by Kopp . . . . .*

**NICCO OPAL GLASS**— Nicco Opal Glass, designated by letter "N." Our Nicco Opal Heat Resisting Glass is a homogeneous Glass of special merit, and should not be confused with ordinary Opal Glass. It is the result of years of experiments. Besides having a high transmission and good diffusion it will withstand sudden changes in temperature. It has proven highly satisfactory when used in places where Glass is exposed to the elements. We believe a trial of this Glass will convince you of the superiority we claim for it.

**DELICA WHITE CASED GLASS**— Delica White Cased Glass, designated by letter "D". On account of the process employed in making Delica White Cased Glass, viz., that of casing or spreading Crystal Glass over a thin film of pure white Glass, we obtain a Glass having excellent diffusion and low absorption, with a highly polished surface. A simple test to show the high transmission qualities of this Glass is to lay a piece of printed matter against the inner surface of the Glass and you will note how easily it can be read from the outside.

**DAYLIGHT CASED GLASS**— Daylight Cased Glass, designated by letter "L". This Glass is produced by placing a thin film of highly diffusing white Glass under a blue tinted Crystal Glass, the light emitted giving daylight effect. It is especially suitable for Schools, Colleges, Offices, Department Stores, and other places where daylight illumination is desired. See Page 9 for further information pertaining to Daylight Glass.

**IVORY GLASS**— Ivory Glass, designated by letter "I". This is a true Ivory color Glass: has the same general properties as our Nicco Opal Heat Resisting Glass, and has been developed after exhaustive study and experiments. It is intended for decorative effects where a strong light is not desired—and is recommended for Hospitals, Churches, Restaurants—wherever special soft lighting effects are preferred.

**ALABASTER CASED GLASS**— Alabaster Cased Glass, designated by letter "A". The Alabaster Cased Glass is produced by spreading a Crystal Glass over a very thin film of white Glass. This Glass is only partially diffusing, permitting a high light-output.

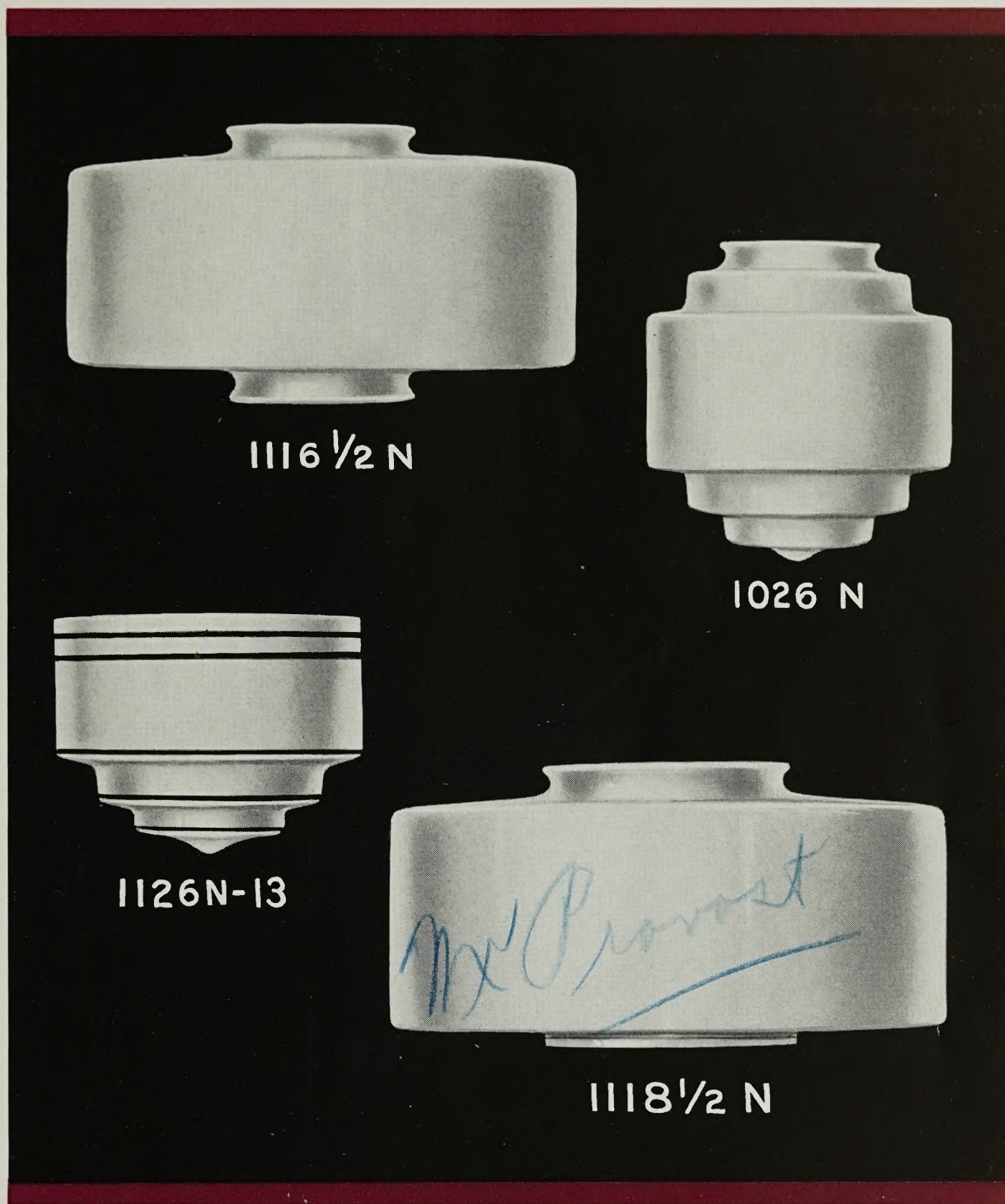
**OTHER GLASSES**— Ruby Glass, designated by letter "R". This is a high quality Ruby Glass, furnished plain-natural Ruby, or roughed inside if desired.

Green Glass, designated by letter "G." This is a high quality Green Glass, furnished plain-natural Green, or roughed inside if desired.

Crystal Glass, designated by letter "C". Our Crystal Glass is a Semi-Lead Glass, superior to ordinary Crystal Glass, and is noted for its brilliancy and durability.



# INDIRECT BOWLS AND LIGHTING UNITS—Nicco Opal Glass



The Bowls and Units illustrated above are made in the following Sizes and Decorations:

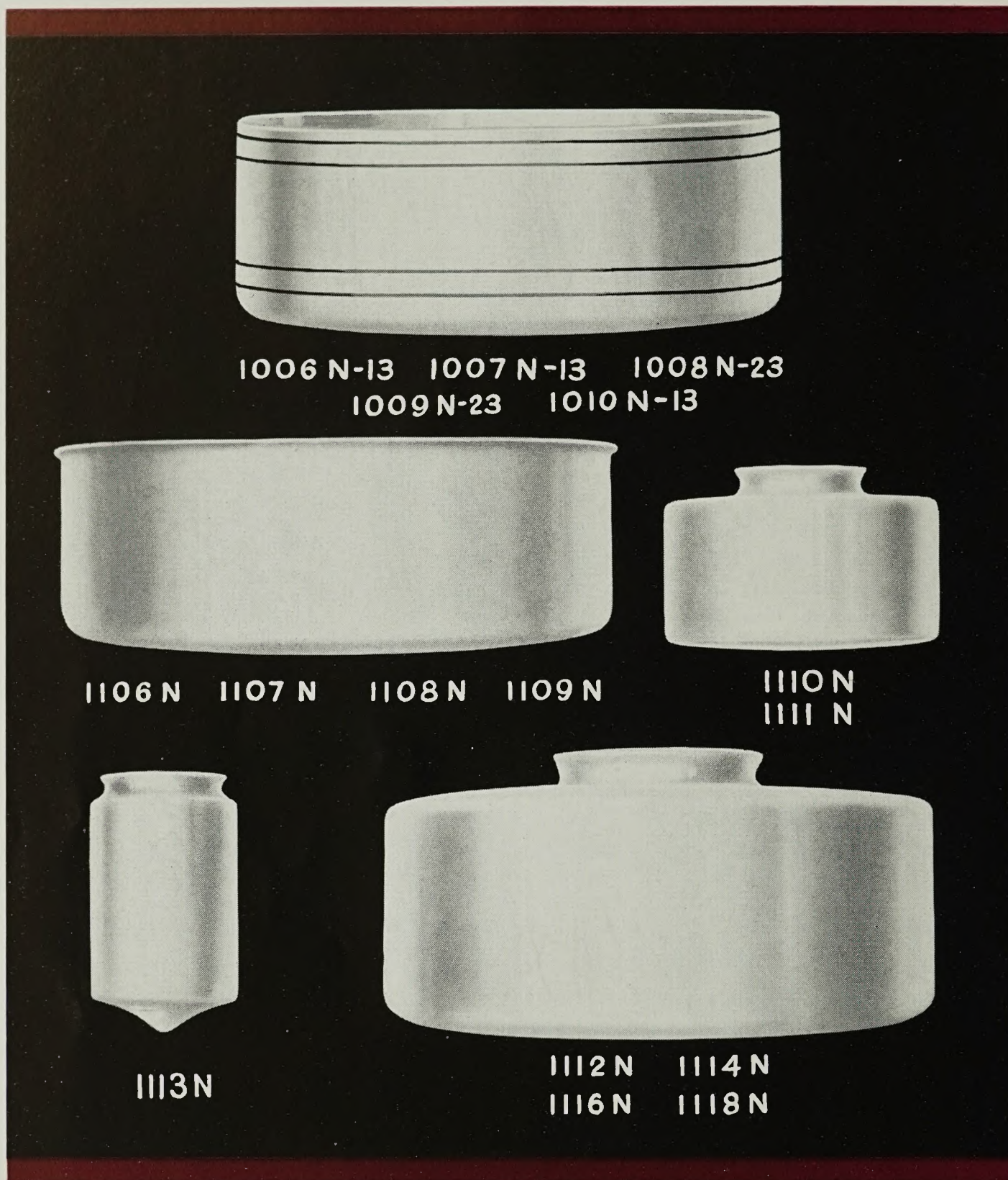
Decorations Numbers and Descriptions:						
N Nicco Opal		N-13 Nicco, Black Lines		N-23 Nicco, Platinum Lines		
Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
1026	7 1/4	4	7 3/4	60-100	8	23 lbs.
1116 1/2	16	6	8 3/4	200-300	2	17 lbs.
1118 1/2	18	8	8 1/2	300-500	2	23 lbs.
Bottom Opening—8"						
1126	7 1/4	7 1/4	6	60-100	12	19 lbs.

Note:—No. 1126 is furnished with hole in bottom.

Order by Number and Decoration Letter and Number



# INDIRECT BOWLS AND LIGHTING UNITS—Nicco Opal Glass



The Bowls and Units illustrated above are made in the following Sizes and Decorations:

Number	Diameter Inches	Fitter Inches	Depth Inches	Decorations Numbers and Descriptions:			Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
				N-13	Nicco, Black Lines	N-23	Nicco, Platinum Lines		
1006	16	16	4 3/4					4	25 lbs.
1007	10	10	3 3/4					6	18 lbs.
1008	12	12	4					3	14 lbs.
1009	14	14	4 1/2					3	15 lbs.
1010	8	8	3 1/2					8	15 lbs.
1106	16 1/2	16 1/2	6 1/2					4	23 lbs.
1107	9 3/4	9 3/4	3					12	27 lbs.
1108	12 1/2	12 1/2	4 3/4					4	25 lbs.
1109	14 1/2	14 1/2	5 1/2					3	18 lbs.
1110	10	4	5 3/8				100-150	6	21 lbs.
1111	8	4	5 1/4				60-100	8	24 lbs.
1112	12	6	6 1/4				150-200	3	16 lbs.
1113	3 3/4	3 1/4	6 1/4				40-60	12	13 lbs.
1114	14	6	7				150-200	2	13 lbs.
1116	16	6	8 1/4				200-300	2	22 lbs.
1118	18	8	9 1/4				300-500	2	23 lbs.

Note:—Nos. 1006, 1007, 1008, 1009 and 1010 are furnished with hole in bottom. All other numbers illustrated above are carried in stock without hole in bottom. If desired with hole there will be an extra charge for drilling.

Order by Number and Decoration Letter and Number



## THE 1011 LINE—Nicco Opal Glass



1011-N 1013-N  
1012-N 1014-N



1016N-13 1018N-23

The 1011 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:						
N Nicco Opal		N-13 Nicco, Black Lines		N-23 Nicco, Platinum Lines		
Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
1011	10	4	6½	100-150	6	22 lbs.
1012	12	6	8½	150-200	2	14 lbs.
1013	12	4	8¼	150-200	2	14 lbs.
1014	14	6	9¼	200	1 and 2	9 and 14 lbs.
1016	16	6	10¼	300	1 and 2	10 and 16 lbs.
1018	18	8	11¾	300-500	1	16 lbs.

Above Units are carried in stock without hole in bottom. If desired with hole there will be an extra charge for drilling.

*Order by Number and Decoration Letter and Number*



# THE 935 LINE—Modernistic Units, Prismatic Design—Nicco Opal Glass



The 935 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:

N Nicco Opal

N-3 Nicco, Black Lines

Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
56	9¼ x 5⅜	...	3¼	25	12	29 lbs.
*935	4¼	3¼	6	40-60	12	15 lbs.
*936	6	4	9	60-100	12	32 lbs.
937	8½	4	6¾	60-100	8	24 lbs.
938	12	6	9½	200-300	2	15 lbs.
939	10	6	16	200-300	1	10 lbs.
940	12½	6	20	300-500	1	15 lbs.
*941	8	4	12	100-150	4	16 lbs.
942	18	8	22	500	1	35 lbs.

\*Nos. 935, 936 and 941 are same design as No. 939.

Above Units are not furnished with hole in bottom. Fixtures shown above for illustration only.

For Wall Bracket for No. 56—See Page 22—Bracket No. 156.

*Order by Number and Decoration Letter and Number*



# *Kopp's* DAYLIGHT CASED GLASS

PROVIDES A SOFT WHITE LIGHT  
NEAREST ACTUAL DAYLIGHT

Kopp's Daylight Cased Glass, so called because it transforms the light from an ordinary Electric Lamp Bulb into a soft white light that more nearly approaches daylight. Spectrophotometric analysis shows that the light transmitted by this Glass approximates actual daylight quality. This is accomplished with the highest efficiency compatible with the results obtained.

It is a well known fact that the maximum of the luminosity curve of the eye is in the same region of the spectrum as the maximum of the radiant energy of the sunlight. This fact substantiates the vast amount of evidence of a physiological nature, that the eye is adapted to see better and with less strain and discomfort by daylight than by an artificial illuminant of a different spectral distribution.

We have illustrated on Page 10 of this Catalog the difference in light transmitted from a Lighting Unit of ordinary White Glass and a Unit in the Daylight Cased Glass. We believe this illustration will convince you of the merits of the Daylight Cased Glass.

Kopp's Daylight Cased Glass gives better light, without glare. It is the result of considerable study, experiments and tests to produce a satisfactory daylight effect with artificial light.

Daylight Cased Glass is ideal for lighting Schools, Colleges, Hospitals and Offices. It eliminates the eye strain and fatigue experienced with ordinary lighting. It has proven most satisfactory for Department Store lighting as it shows the merchandise to proper advantage—the fabrics in their true colors; jewelry, china, glassware and other merchandise in their real values. Daylight lighting costs very little more than ordinary lighting, but you will be well compensated for the slight difference in cost by the results obtained.

Our Daylight Cased Glass may now be obtained in Lighting Units of various designs, and in a wide range of sizes to meet all requirements. You will find these Units illustrated on Pages 10, 11, 13, 15, 16 and 20 of this Catalog.

Equip your own establishment with Daylight Cased Glass and you will readily be convinced of the superiority of this Glass.

NO EYE STRAIN OR FATIGUE AFTER KOPP'S DAYLIGHT CASED GLASS HAS BEEN INSTALLED



## THE 981 LINE—Daylight Cased Glass



WHITE GLASS

DAYLIGHT GLASS

Above illustration shows the difference in light transmitted from a Daylight Cased Glass Unit and an ordinary White Glass Unit. Lamps of same Candlepower and Wattage used in both Units.

The 981 Line is made in the following Sizes:

Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
981	8½	4	5½	75-100	12	22 lbs.
982	12	4	7¾	150-200	2 & 4	11 & 18 lbs.
983	12	6	7¾	150-200	2 & 4	11 & 18 lbs.
984	14	6	9¼	200	2	12 lbs.
985	16	6	10½	300	2	17 lbs.
986	18	8	11¾	300-500	1	14 lbs.
987	10	4	6¼	100-150	8	32 lbs.
988	10	6	6¼	100-150	8	32 lbs.

For complete information pertaining to the No. 981 Line, See Page 11.

Other Lighting Units in Daylight Cased Glass are illustrated on Pages 13, 15, 16 and 20.



THE 981 LINE—Daylight Cased, Delica White Cased and Nicco Opal Glass. Alabaster Glass White Enameled Bottom, Semi-Indirect Units



The 981 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:						
D Delica White Cased			L Daylight Cased			
N Nicco Opal			A-1 Alabaster, White Enameled Bottom			
Number	Diameter Inches	Fitter Inches	Depth Inches	* Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
981	8½	4	5½	75-100	12	22 lbs.
982	12	4	7¾	150-200	2 & 4	11 & 18 lbs.
983	12	6	7¾	150-200	2 & 4	11 & 18 lbs.
984	14	6	9¾	200	2	12 lbs.
985	16	6	10½	300	2	17 lbs.
986	18	8	11¾	300-500	1	14 lbs.
987	10	4	6¾	100-150	8	32 lbs.
988	10	6	6¾	100-150	8	32 lbs.

The Fixtures illustrated above are—Chain Type, No. 2970—4" Fitter, No. 2971—6" Fitter. Ceiling Type, No. 2975—6" Fitter, No. 2985—4" Fitter. See Price List for further information pertaining to Fixtures.

Above Units are carried in stock without hole in bottom. If desired with hole there will be an extra charge for drilling.

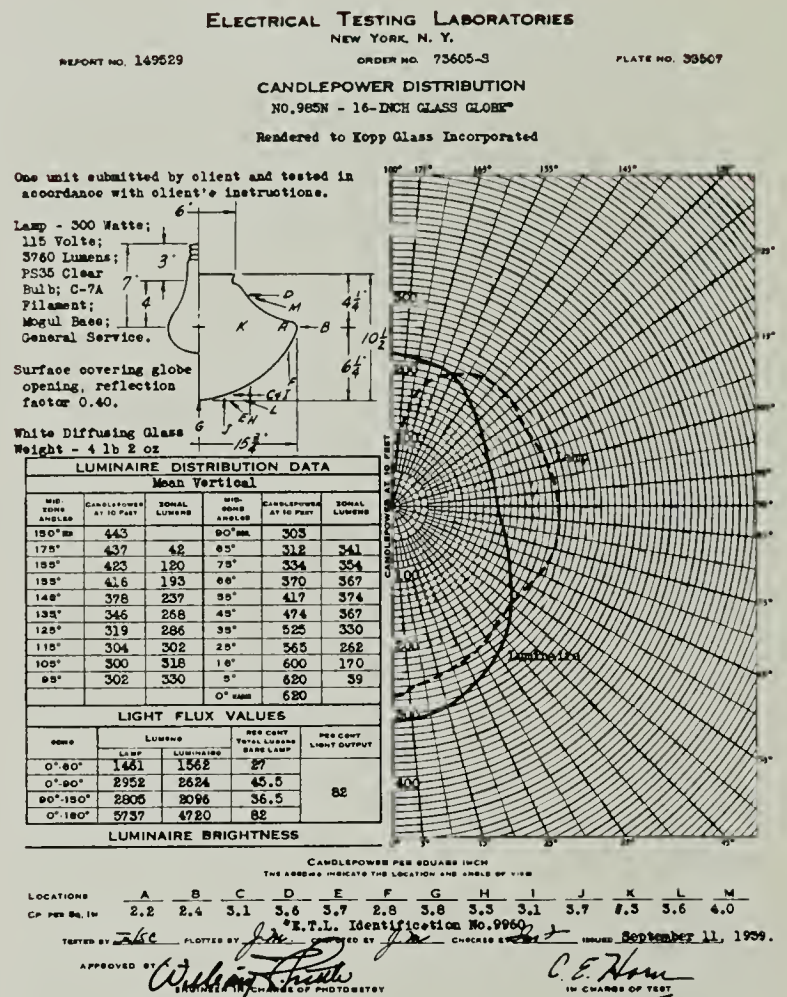
*Order by Number and Decoration Letter and Number*



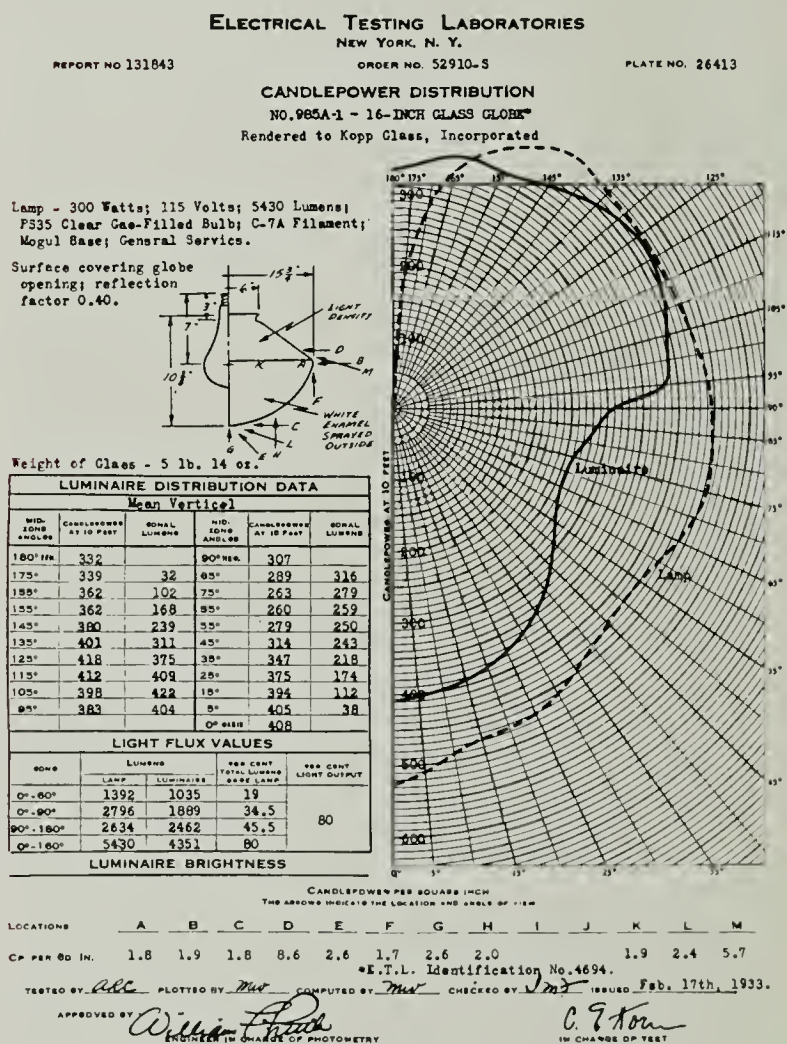
# PHOTOMETRIC DATA

## 981 LINE

At Right is reproduction of Candlepower Distribution Tests of Units No. 985-N, Nicco Opal Glass, and No. 985A-1, Alabaster Cased Glass, White Enameled Bottom. Full size blueprints will be furnished on request.



Candlepower Distribution Test  
Unit No. 985-N, Nicco Opal Glass



Candlepower Distribution Test  
Unit No. 985 A-1, Alabaster Cased Glass, White Enameled  
Bottom—for Semi-Indirect Lighting



## THE 1040 LINE—Daylight Cased Glass, Nicco Opal Glass



The 1040 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:

N Nicco Opal

L Daylight Cased

Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
1040	10	4	6 1/2	100-150	8	32 lbs.
1042	12	6	8	150-200	2 & 4	11 & 18 lbs.
1044	14	6	9	200	2	12 lbs.
1046	16	6	10 1/4	300	2	17 lbs.
1048	18	8	11 1/2	300-500	1	14 lbs.

Above Units are carried in stock without hole in bottom. If desired with hole there will be an extra charge for drilling.  
The Fixture shown above is for illustration only.

*Order by Number and Decoration Letter*



# PHOTOMETRIC DATA—1040 LINE

## ELECTRICAL TESTING LABORATORIES NEW YORK, N. Y.

REPORT NO. 150262

ORDER NO. 74475-3

PLATE NO. 34055

### CANDLEPOWER DISTRIBUTION NO. 1046-N GLASS GLOBE\*

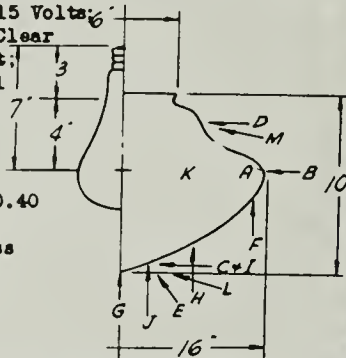
Rendered to Kopp Glass, Incorporated

One globe submitted by client and tested in accordance with client's instructions.

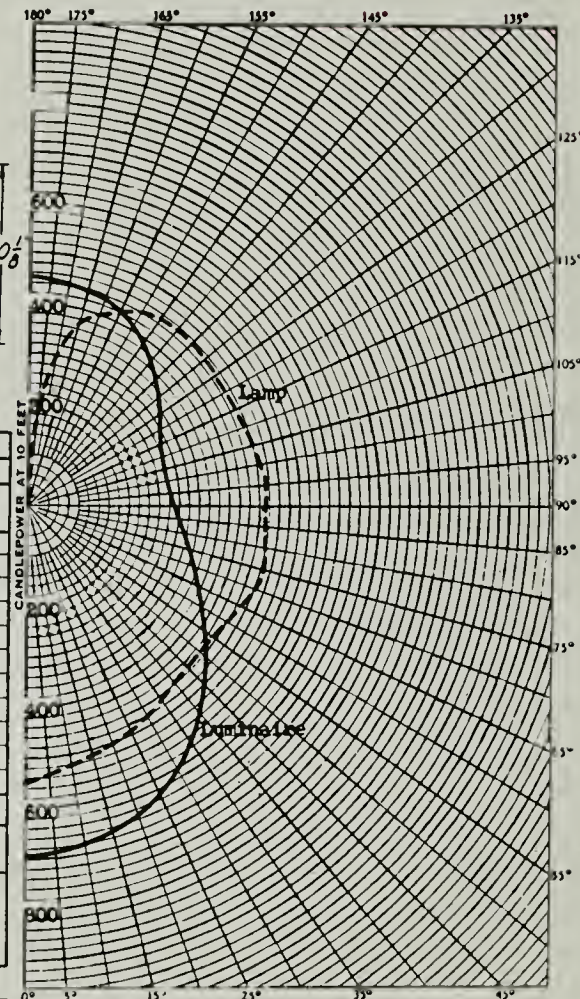
Lamp - 300 Watts; 115 Volts;  
5760 Lumens; PS35 Clear  
Bulb; C-7A Filament;  
Mogul Base; General  
Service.

Surface covering  
globe opening,  
reflection factor 0.40

White diffusing glass  
Weight - 4 lb. 1 oz.



LUMINAIRE DISTRIBUTION DATA					
Mean Vertical					
MID-ZONE ANGLER	CANDLEPOWER AT 10 FEET	TONAL LUMENS	MID-ZONE ANGLER	CANDLEPOWER AT 10 FEET	TONAL LUMENS
180° HZ.	448		90° HZ.	292	
175°	444	42	85°	303	331
165°	436	123	75°	335	355
155°	420	194	65°	375	372
145°	384	241	55°	429	385
135°	348	269	45°	498	386
125°	309	277	35°	570	358
115°	282	280	25°	626	290
105°	275	291	15°	665	188
95°	283	309	5°	685	65
			0° HORIZ	690	
LIGHT FLUX VALUES					
ZONE	LUMENS		PER CENT TOTAL LUMENS BARE LAMP	PER CENT LIGHT OUTPUT	
	LAMP	LUMINAIRE			
0°-80°	1461	1672	29	82.5	
0°-90°	2952	2730	47.5		
90°-180°	2805	2026	35		
0°-180°	5757	4756	82.5		
LUMINAIRE BRIGHTNESS					



CANDLEPOWER PER SQUARE INCH THE ARROWS INDICATE THE LOCATION AND ANGLE OF VIEW															
LOCATIONS	A	B	C	D	E	F	G	H	I	J	K	L	M		
CP. PER SQ. IN.	2.5	2.5	3.9	3.6	4.8	2.5	4.6	3.5	4.2	4.8	2.5	4.7	3.6		
*E.T.L. Identification No. 10155															
TESTED BY	JWC		PLOTTED BY		JWC		COMPUTED BY		JWC		CHECKED BY		JWC		
											ISSUED			November 20, 1939.	
APPROVED BY															
C. E. Horn															
IN CHARGE OF PHOTOMETRY															
IN CHARGE OF TEST															

Above is reproduction of Candlepower Distribution Test of Unit No. 1046-N, Nicco Opal Glass. A full size blue-print will be furnished on request.



# THE 1030 LINE—Daylight Cased Glass and Nicco Opal Glass



The 1030 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:  
N Nicco Opal L Daylight Cased

Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
1030	10	4	6 <sup>7</sup> / <sub>8</sub>	100-150	6	17 lbs.
1032	12	6	7 <sup>3</sup> / <sub>4</sub>	150-200	2	11 lbs.
1034	14	6	9 <sup>1</sup> / <sub>4</sub>	200	2	14 lbs.
1036	16	6	10 <sup>3</sup> / <sub>4</sub>	300	1 & 2	12 & 16 lbs.
1039	18	8	12	300-500	1	14 lbs.

Above Units are carried in stock without hole in bottom. If desired with hole there will be an extra charge for drilling.  
The Fixture shown above is for illustration only.

Order by Number and Decoration Letter



# THE 852 LINE—Daylight Cased, Delica White Cased and Nicco Opal Glass



The 852 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:

N Nicco Opal		D Delica White Cased		L Daylight Cased		
Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
852	10	4	7	100-150	6	17 lbs.
853	12	6	9	150-200	2	11 lbs.
854	14	6	9½	200	2	13 lbs.
855	16	6	11½	300	1 & 2	10 & 16 lbs.
856	18	6	13½	300-500	1	14 lbs.
857	18	8	13½	300-500	1	14 lbs.
861	12	4	9	150-200	2	11 lbs.
865	8	4	6	75-100	12	22 lbs.

Above Units are carried in stock without hole in bottom. If desired with hole there will be an extra charge for drilling. The Fixture shown above is for illustration only.

Order by Number and Decoration Letter



## THE 911 LINE—Nicco Opal Glass



The 911 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:

N Nicco Opal

Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
911	10	4	7	100-150	6	23 lbs.
912	12	6	7 $\frac{1}{2}$	150-200	2	11 lbs.
913	14	6	9 $\frac{3}{8}$	200	2	13 lbs.
914	16	6	10 $\frac{1}{4}$	300	2	14 lbs.
915	12	4	7 $\frac{1}{2}$	150-200	2	11 lbs.
916	18	8	11	300-500	1	16 lbs.
918	18	6	11	300-500	1	16 lbs.

The Fixture illustrated above is—Chain Type, No. 2970—4" Fitter, No. 2971—6" Fitter. See Price List for further information pertaining to Fixtures.

Above Units are carried in stock without hole in bottom. If desired with hole there will be an extra charge for drilling.

*Order by Number and Decoration Letter*



# PHOTOMETRIC DATA—911 LINE

## ELECTRICAL TESTING LABORATORIES NEW YORK, N. Y.

REPORT NO. 150261

ORDER NO. 74475-S

PLATE NO. 34054

### CANDLEPOWER DISTRIBUTION NO. 914-N GLASS GLOBE\*

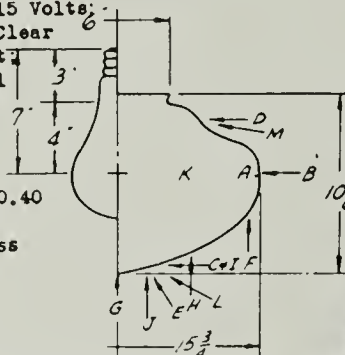
Rendered to Kopp Glass, Incorporated

One globe submitted by client and tested in accordance with client's instructions.

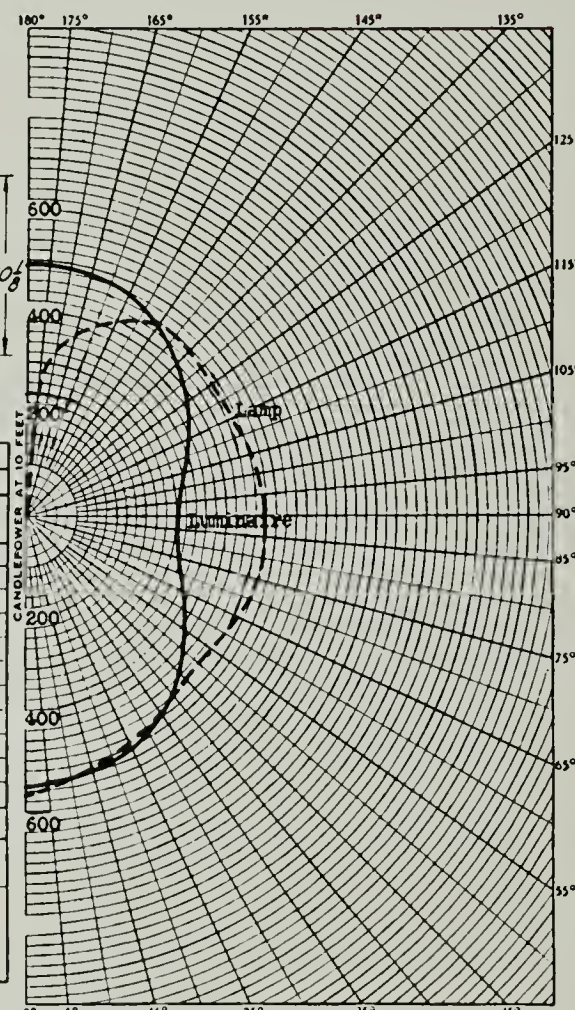
Lamp - 300 Watts; 115 Volts;  
5760 Lumens; PS35 Clear  
Bulb; C-7A Filament;  
Mogul Base; General  
Service.

Surface covering  
globe opening,  
reflection factor 0.40

White diffusing glass  
Weight - 4 lb.



LUMINAIRE DISTRIBUTION DATA					
Mean Vertical					
MID ZONE ANGLE	CANDLEPOWER AT 10 FEET	ZONAL LUMENS	MID ZONE ANGLE	CANDLEPOWER AT 10 FEET	ZONAL LUMENS
180°	489		90°	300	
175°	489	46	85°	301	329
165°	488	138	75°	316	335
155°	478	221	65°	343	340
145°	450	283	55°	390	350
135°	420	325	45°	437	338
125°	383	343	35°	474	298
115°	349	346	25°	500	231
105°	322	341	15°	515	146
95°	303	331	5°	525	50
			0°	530	
LIGHT FLUX VALUES					
ZONE	LUMENS		PER CENT T. TEL. LUMINAIRE	PER CENT LIGHT OUTPUT	
	LAMP	LUMINAIRE			
0°-60°	1461	1413	24.5	83	
0°-90°	2952	2417	42		
40°-180°	2805	2374	41		
0°-180°	5757	4791	83		



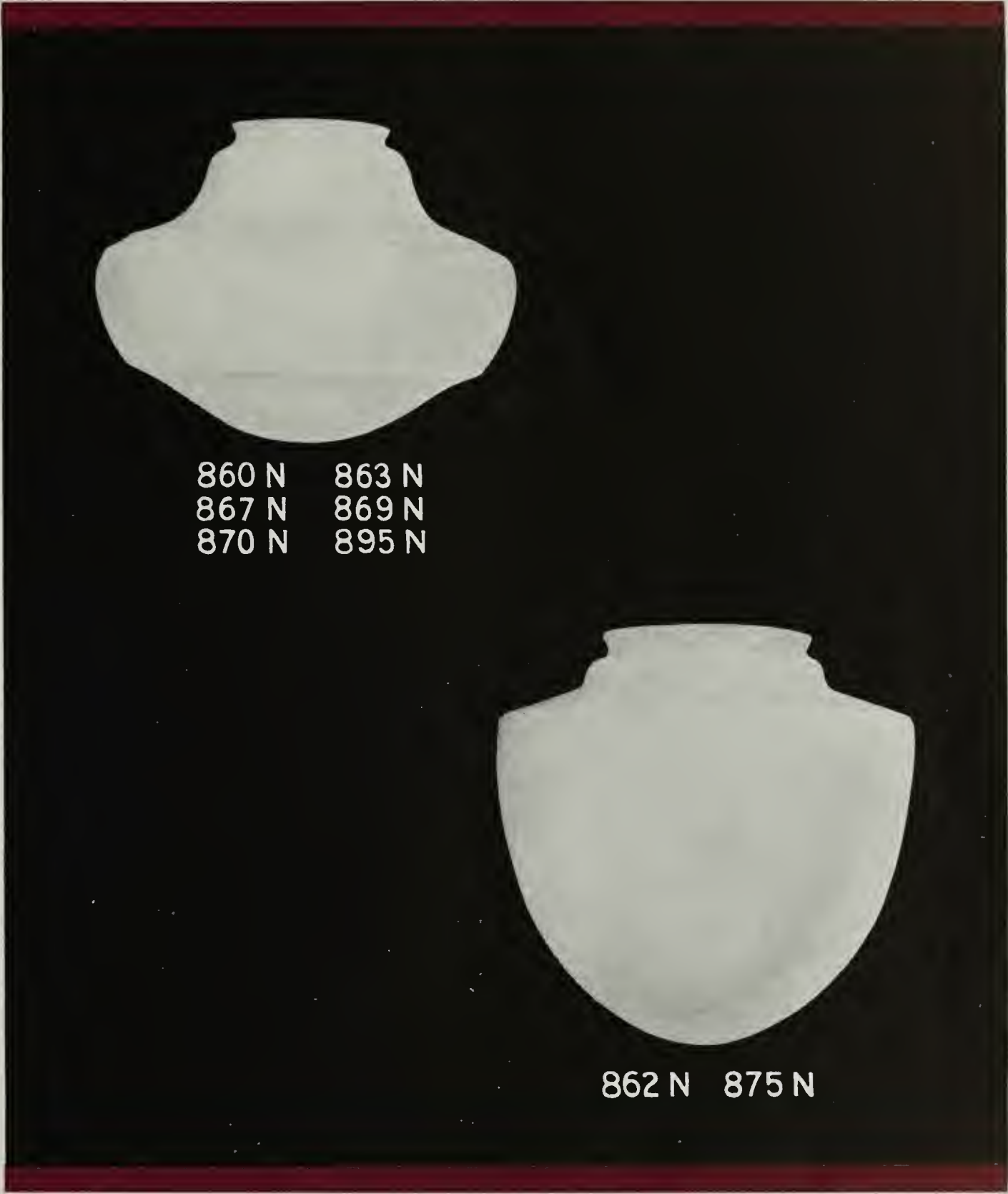
CANDLEPOWER PER SQUARE INCH													
THE ARROWS INDICATE THE LOCATION AND ANGLE OF VIEW													
LOCATIONS	A	B	C	D	E	F	G	H	I	J	K	L	M
CP PER SQ IN	2.6	2.8	2.4	3.8	3.8	1.8	3.3	2.6	2.4	3.8	2.7	3.5	3.3
TESTED BY	JSC		PLOTTED BY		Jnt		*E.T.L. Identification No.		10154		ISSUED November 20, 1939.		
APPROVED BY	William F. Smith										C. E. Horn		
IN CHARGE OF PHOTOMETRY										IN CHARGE OF TEST			

Above is reproduction of Candlepower Distribution Test of Unit No. 914-N, Nicco Opal Glass. A full size blueprint will be furnished on request.



THE 860 LINE—Delica White Cased and Nicco Opal Glass

THE 862 LINE—Delica White Cased and Nicco Opal Glass



The Units illustrated above are made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:						
860-863-867-869-870-895				862-875		
N    Nicco Opal				N    Nicco Opal		
D    Delica White Cased				D    Delica White Cased		
Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
860	14	6	9½	200	2	14 lbs.
863	10	4	7½	100-150	6	23 lbs.
867	8	4	6½	75-100	8	25 lbs.
869	12½	6	8½	150-200	2	12 lbs.
870	15½	6	10	300	2	14 lbs.
895	10	6	7½	100-150	6	23 lbs.
862	12	6	12	150-200	2	14 lbs.
875	14	6	13½	200	1	9 lbs.

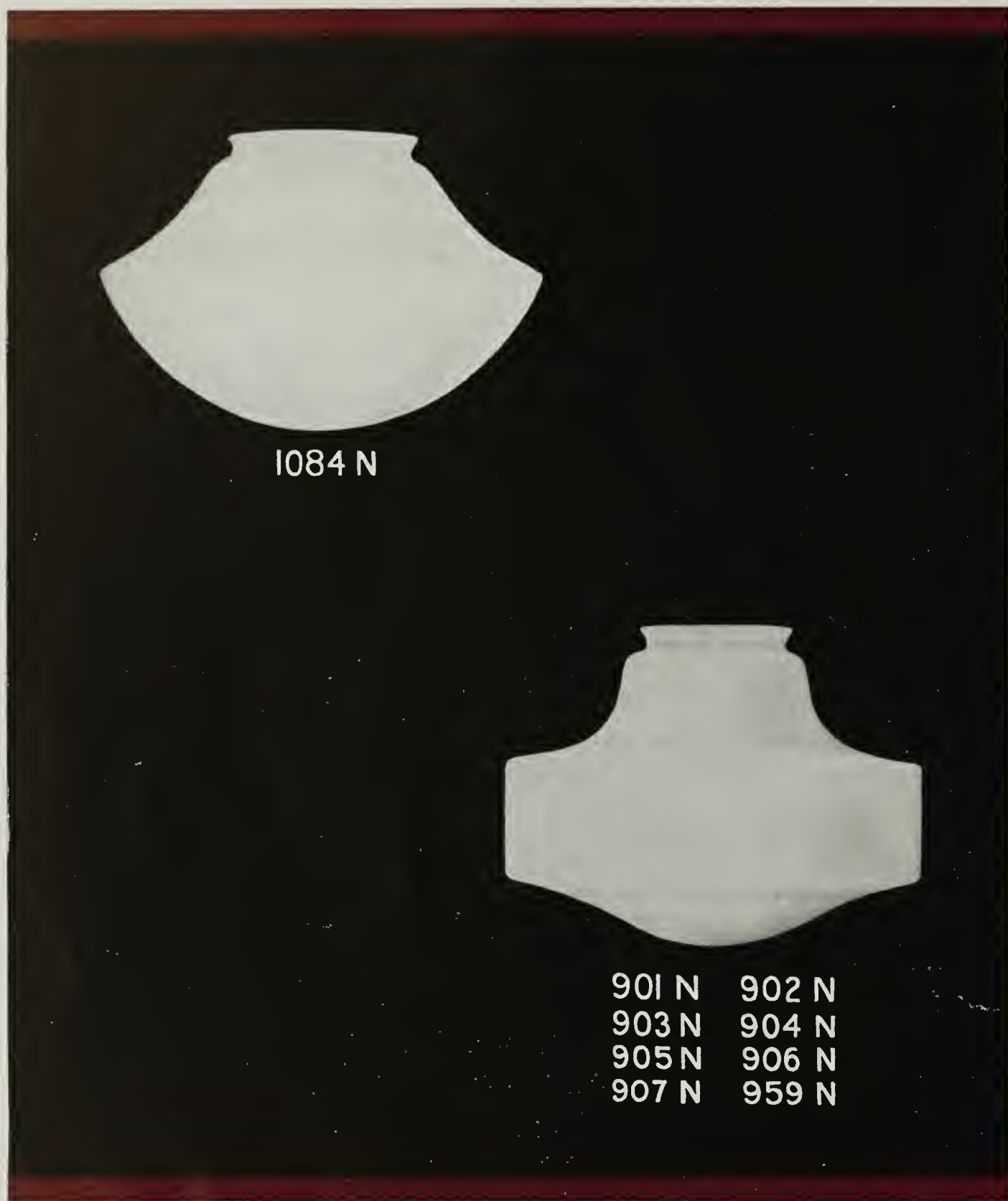
Above Units are carried in stock without hole in bottom. If desired with hole there will be an extra charge for drilling.

Order by Number and Decoration Letter



THE 901 LINE—Delica White Cased and Nicco Opal Glass  
UNIT 1084—Daylight Cased and Nicco Opal Glass.

*Designed with shoulder to accommodate Glass Louvre*



The Units illustrated above are made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:

1084

N Nicco Opal  
L Daylight Cased

901-902-903-904-905-906-907-959

N Nicco Opal  
D Delica White Cased

Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
901	6 <sup>1</sup> / <sub>2</sub>	3 <sup>1</sup> / <sub>4</sub>	5 <sup>1</sup> / <sub>2</sub>	50- 75	12	18 lbs.
902	8 <sup>1</sup> / <sub>2</sub>	4	7 <sup>1</sup> / <sub>4</sub>	75-100	8	28 lbs.
903	10 <sup>1</sup> / <sub>2</sub>	4	8	100-150	4	22 lbs.
904	12 <sup>1</sup> / <sub>2</sub>	6	10	150-200	2	14 lbs.
905	14 <sup>1</sup> / <sub>2</sub>	6	10 <sup>3</sup> / <sub>4</sub>	200	2	16 lbs.
906	16	6	12 <sup>1</sup> / <sub>2</sub>	300	2	18 lbs.
907	18	6	14 <sup>3</sup> / <sub>4</sub>	300-500	1	20 lbs.
959	18	8	14 <sup>3</sup> / <sub>4</sub>	300-500	1	20 lbs.
1084	13 <sup>1</sup> / <sub>2</sub>	6	8 <sup>1</sup> / <sub>2</sub>	200	2	13 lbs.

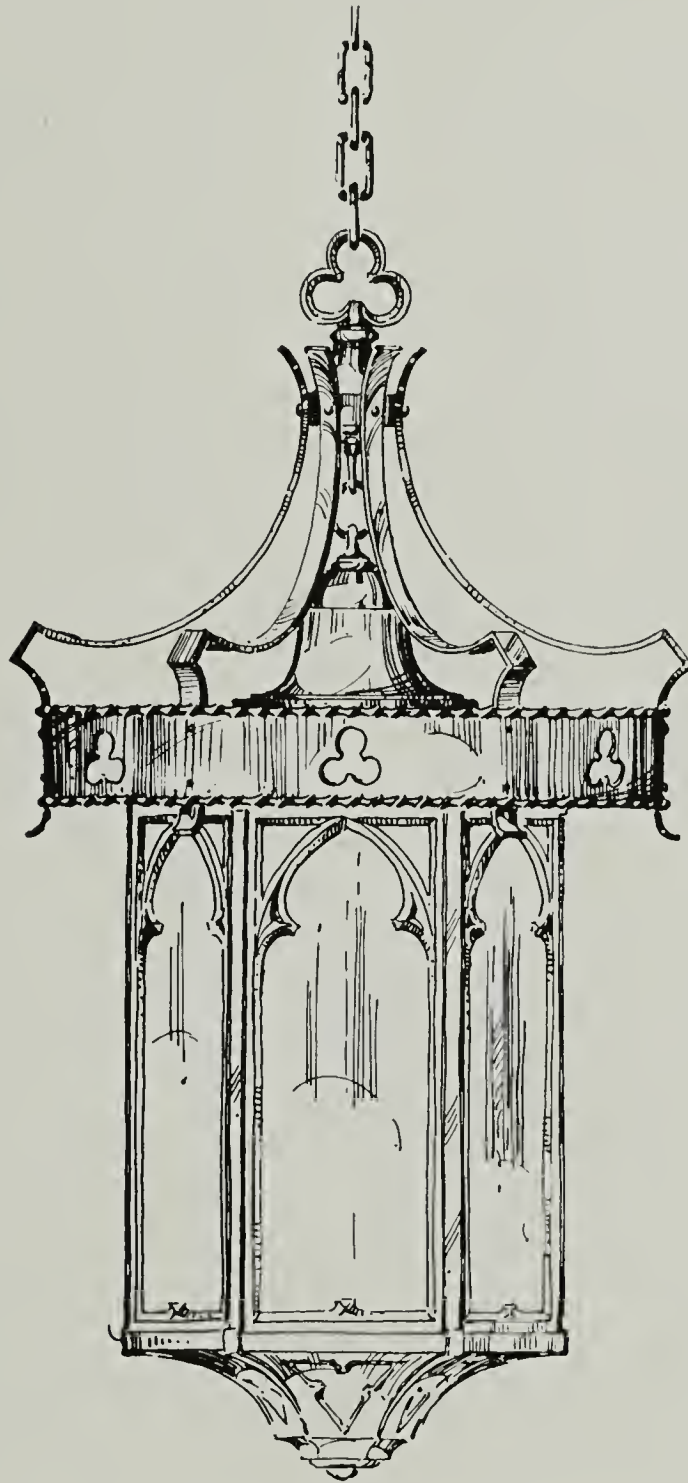
Above Units are carried in stock without hole in bottom. If desired with hole there will be an extra charge for drilling.

*Order by Number and Decoration Letter*



## GOTHIC DESIGN LIGHTING UNITS

*The Correct Design Unit for Church Lighting*  
*Also suitable for other Public Buildings*

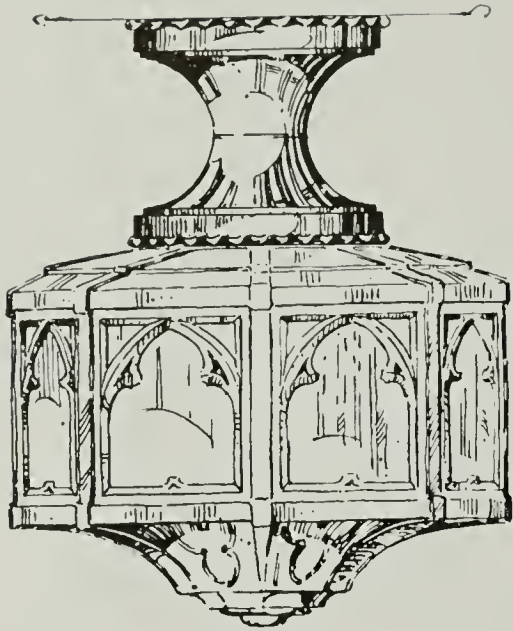


Unit No. 974

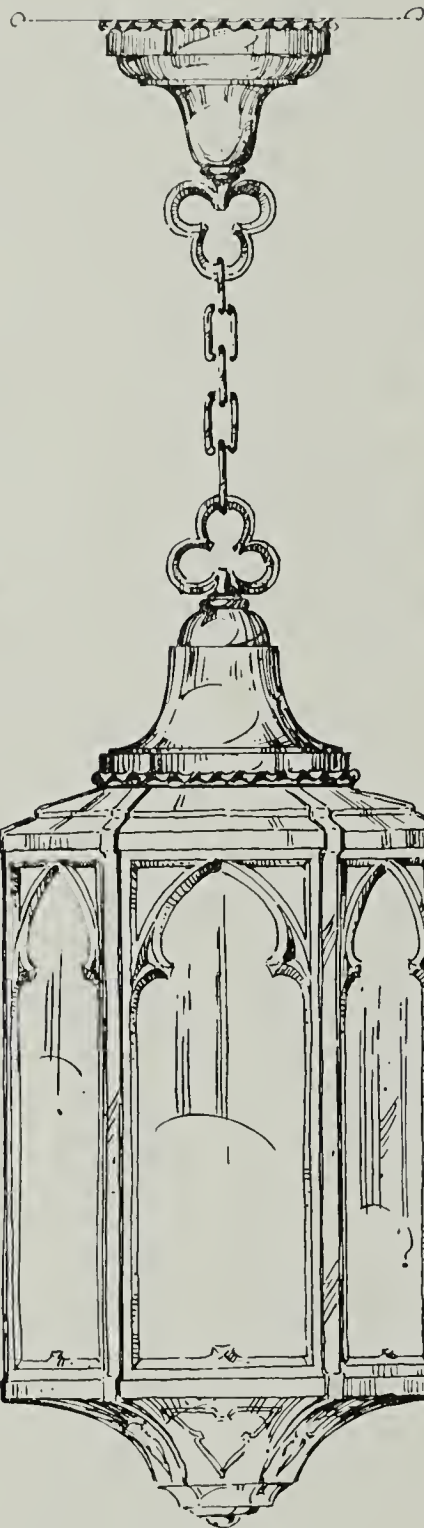
The Architectural Sketches on Pages 21 and 22 illustrate Fixtures suggested for our Gothic Design Lighting Units. Complete information pertaining to the Fixtures shown will be furnished on application.



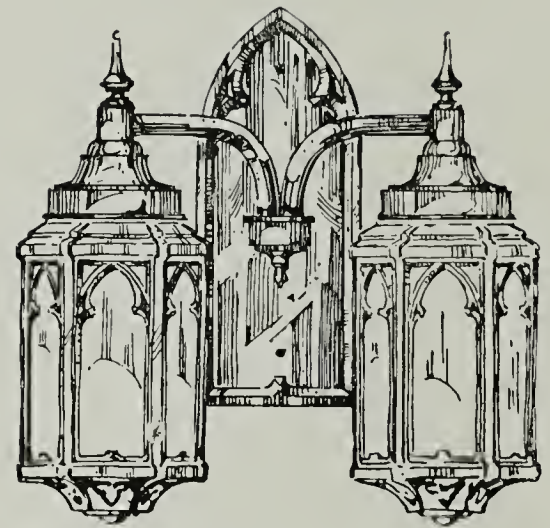
# GOTHIC DESIGN LIGHTING UNITS



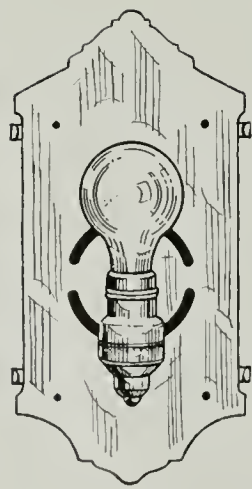
Unit No. 977



Unit No. 978



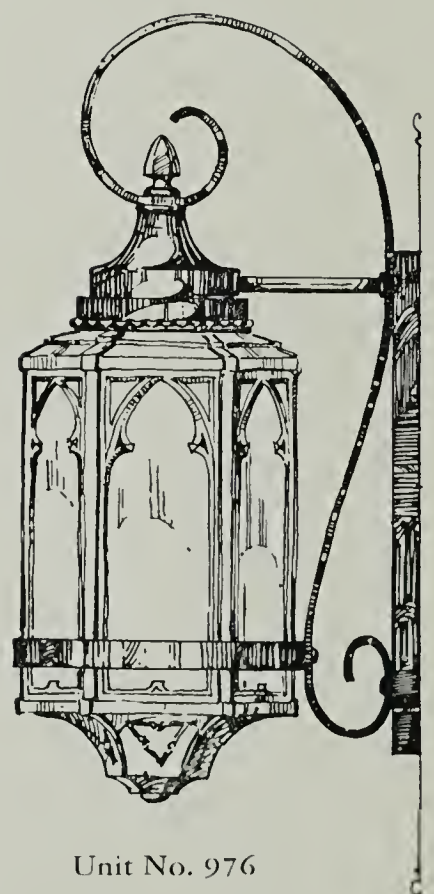
Unit No. 979



No. 156 Bracket  
For No. 980  
Wall Light



Wall Light No. 980



Unit No. 976



# THE 976 LINE—Gothic Design Lighting Units—Nicco Opal and Ivory Glass



The 976 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:						
974-976-977-978-979-980				976-977-978-979-980		
N	Nicco Opal	I	Ivory			
N-4	Nicco, Panels Brown Decoration	I-4	Ivory, Panels Brown Decoration			
N-5	Nicco, Cathedral Effect Decoration	I-5	Ivory, Cathedral Effect Decoration			
Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
974	14	8	24	500	1	19 lbs.
976	6½	4	12	150	6	22 lbs.
977	12	6	10	200	2	16 lbs.
978	10½	6	18½	300	1	10 lbs.
979	4¾	3¼	8	40-60	12	25 lbs.
980 Wall Light, 11¼ x 5¾", 3¼" deep.				25-40	12	36 lbs.

Above Units are not furnished with hole in bottom.  
For Metal Bracket for 980, see Page 22.

Order by Number and Decoration Letter and Number



## GOTHIC DESIGN LIGHTING UNITS

Fixture Manufacturers have found in the Kopp Gothic Design Lighting Units a solution to a difficult illuminating problem. These Units may be used with various metal Fixtures designed for Churches and other buildings of Gothic architecture.

The Gothic Units are furnished in White, Ivory, and with panels tinted in Cathedral effects as illustrated, to harmonize with interior decoration.



## THE 1309 LINE

One-Piece Units—Crystal Glass Enameled, with Clear Diffusing Bottom.  
Crystal Glass Satin Finish, with Clear Diffusing Bottom, and Nicco Opal Glass.

*Designed with shoulder to accommodate Glass Louvre*



The 1309 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:

C-3	Crystal Enameled, Clear Bottom	N-30	Nicco, Black Lines
C-4	Crystal Satin Finish, Clear Bottom	N-31	Nicco, Green Lines
N	Nicco Opal	N-33	Nicco, Ruby Lines (four lines)

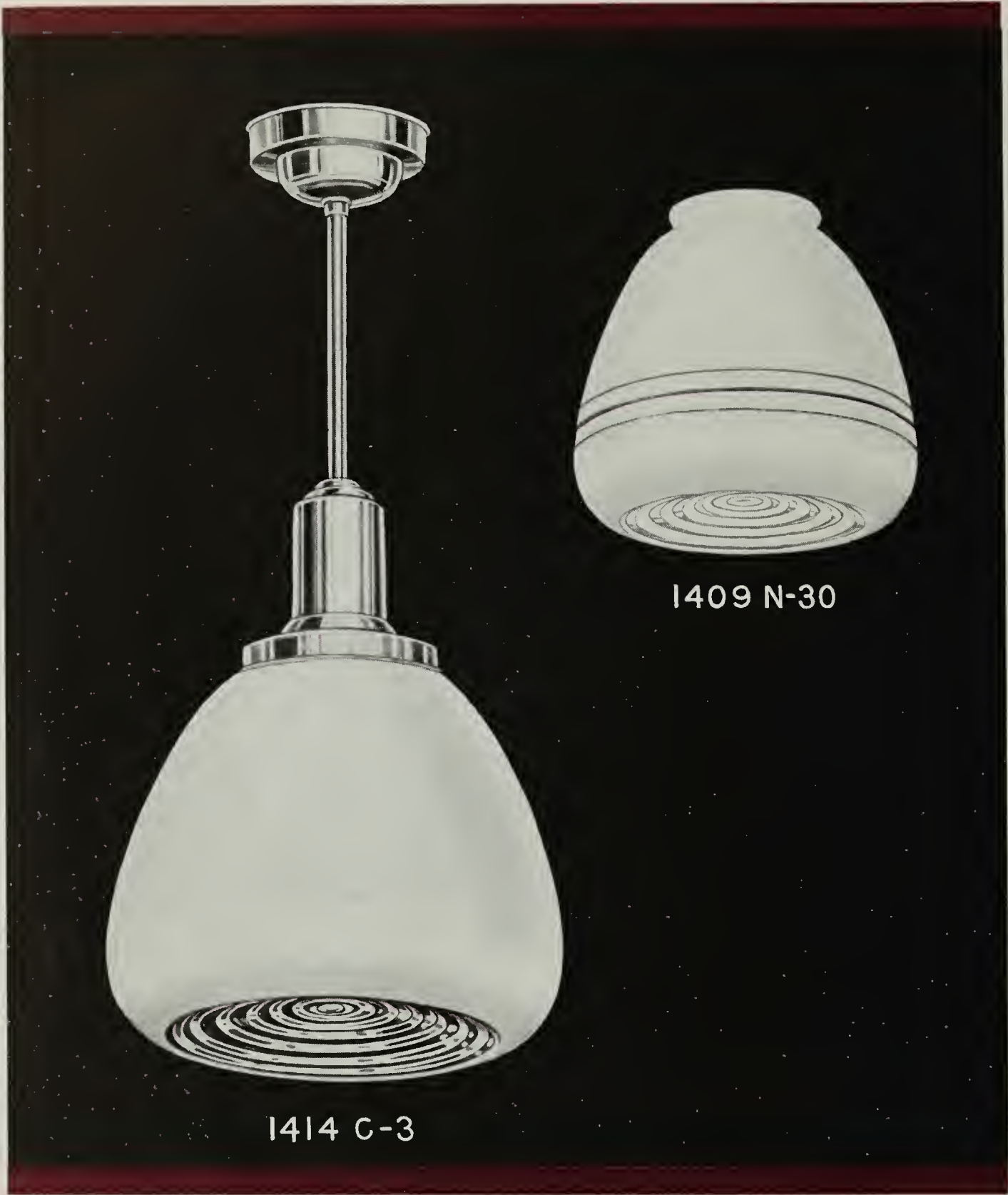
Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
1309	9	4	7 $\frac{1}{4}$	75-100	12	29 lbs.
1314	14	6	10 $\frac{3}{4}$	200	2	18 lbs.

The Fixture shown above is for illustration only.

*Order by Number and Decoration Letter and Number*



# THE 1409 LINE—One-piece Units—Crystal Glass Enameled, with Clear Diffusing Bottom, and Nicco Opal Glass



The 1409 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:						
C-3	Crystal Enameled, Clear Bottom			N-30	Nicco, Black Lines	
N	Nicco Opal			N-31	Nicco, Green Lines	
N-23	Nicco, Platinum Lines			N-33	Nicco, Ruby Lines	
Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
1409	8¾	4	8⅞	150	6	22 lbs.
1414	14	6	12⅞	200-300	2	19 lbs.

The Fixture shown above is for illustration only.

*Order by Number and Decoration Letter and Number*



## THE 1209 LINE

One-Piece Units—Crystal Glass Enameled, with Clear Diffusing Bottom.  
Crystal Glass Satin Finish, with Clear Diffusing Bottom, and Nicco Opal Glass.

*Designed with shoulder to accommodate Glass Louvre*



The 1209 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:

C-3	Crystal Enameled, Clear Bottom	N-30	Nicco, Black Lines
C-4	Crystal Satin Finish, Clear Bottom	N-31	Nicco, Green Lines
N	Nicco Opal	N-33	Nicco, Ruby Lines
N-23	Nicco, Platinum Lines		

Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
1207	6 $\frac{7}{8}$	4	6 $\frac{3}{4}$	75-100	12	30 lbs.
1209	8 $\frac{1}{2}$	4	9	150	8	28 lbs.
1214	14	6	12 $\frac{3}{4}$	200-300	2	19 lbs.

The Fixture shown above is for illustration only.

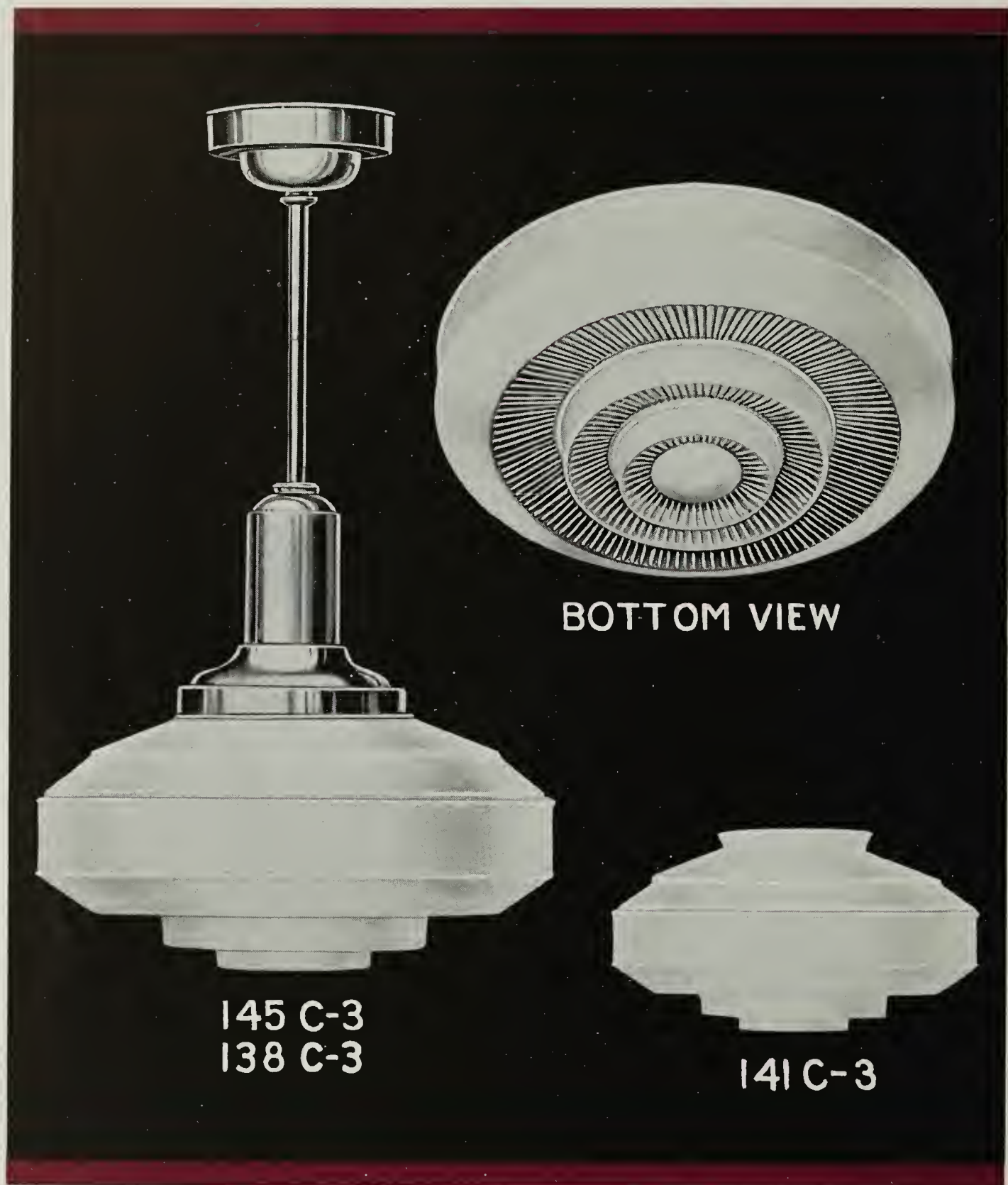
*Order by Number and Decoration Letter and Number*



## THE 141 LINE

One-Piece Units—Crystal Glass Enameled, with Clear Diffusing Bottom, and Nicco Opal Glass.

*Designed with shoulder to accommodate Glass Louvre*



Globe Design Patent No. 112697

The 141 Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:

141

138-145

C-3 Crystal Enameled, Clear Bottom

C-3 Crystal Enameled, Clear Bottom

N Nicco Opal

N-33 Nicco, Ruby Lines (three lines on bottom)

*Other Color Lines can be furnished if desired*

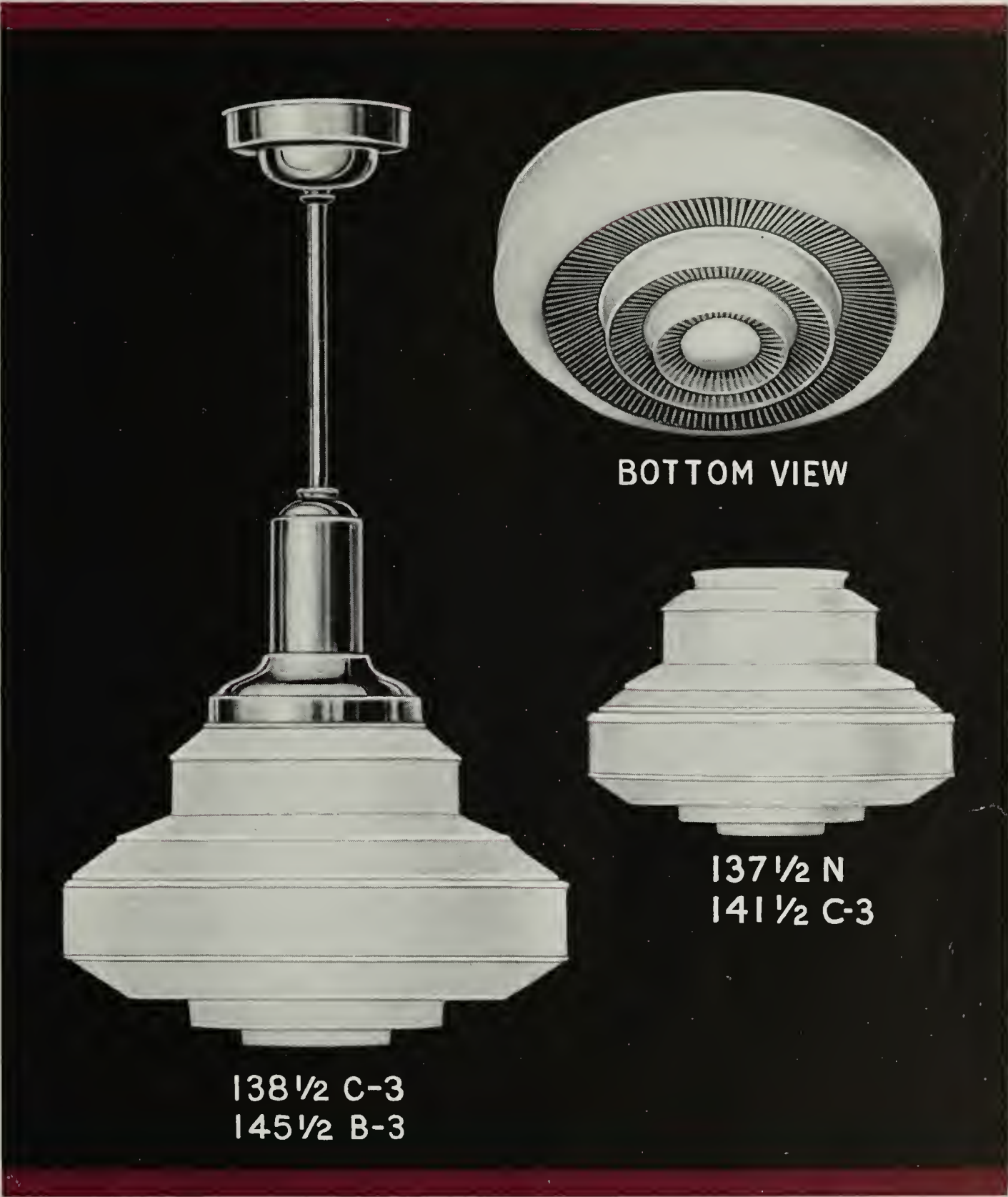
Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
138	16	6	8 <sup>1</sup> / <sub>2</sub>	200	2	21 lbs.
141	9	4	5 <sup>1</sup> / <sub>4</sub>	75	12	31 lbs.
145	14	6	7 <sup>1</sup> / <sub>2</sub>	150	2	15 lbs.

The Fixture shown above is for illustration only.

*Order by Number and Decoration Letter and Number*

THE 141½ LINE—One-Piece Units—Crystal Glass Enameled, with Clear Diffusing Bottom.  
 Clear Daylight Blue Glass Enameled, Clear Diffusing Bottom, and Nicco Opal Glass.

*Designed with shoulder to accommodate Glass Louvre*



Globe Design Patent No. 112697

The 141½ Line is made in the following Sizes and Decorations:

Decorations Numbers and Descriptions:

137½-141½

- C-3 Crystal Enameled, Clear Bottom
- B-3 Clear Daylight Blue Enameled, Clear Bottom
- N Nicco Opal
- N-33 Nicco, Ruby Lines (three lines on bottom)

138½-145½

- C-3 Crystal Enameled, Clear Bottom
- B-3 Clear Daylight Blue Enameled, Clear Bottom

*Other Color Lines can be furnished if desired*

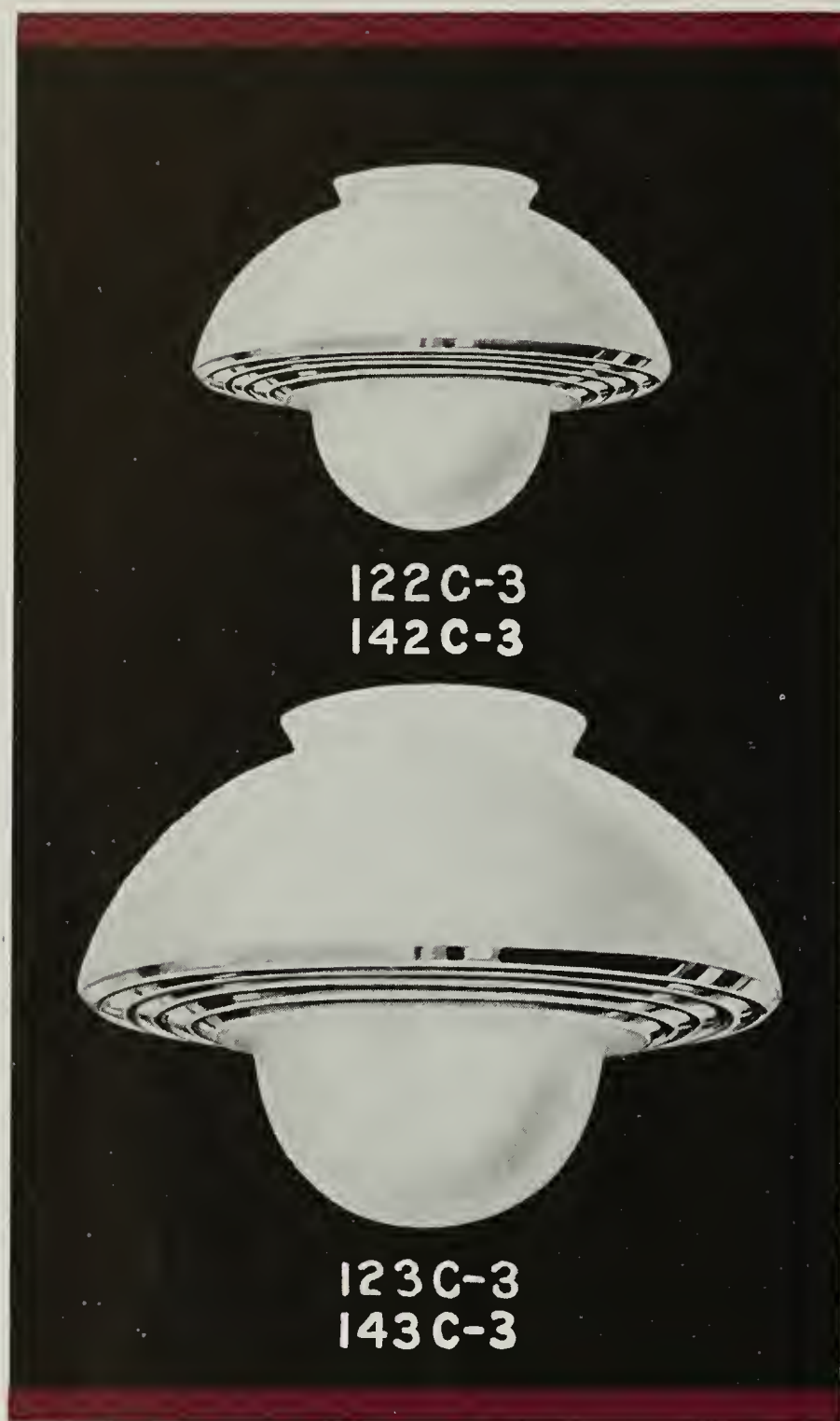
Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
137½	6½	4	4½	60	12	20 lbs.
138½	16	6	10½	300	2	22 lbs.
141½	9	4	6½	100	12	35 lbs.
145½	14	6	9½	200	2	17 lbs.

The Fixture shown above is for illustration only.

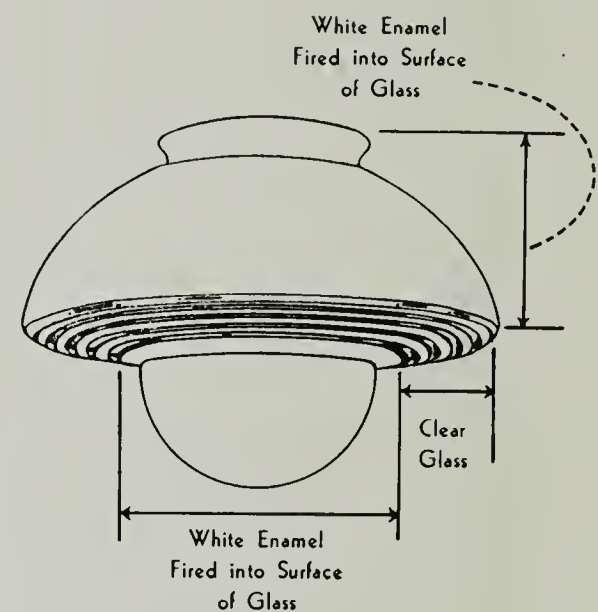
*Order by Number and Decoration Letter and Number*



# THE 122 LINE—One-Piece Units—Crystal Glass Enameled, with Clear Diffusing Bottom



The SPREADLIGHT UNIT has been scientifically designed to produce efficient light output and increased light distribution



The 122 Line is made in the following Sizes and Decorations:

Decoration Numbers and Descriptions:

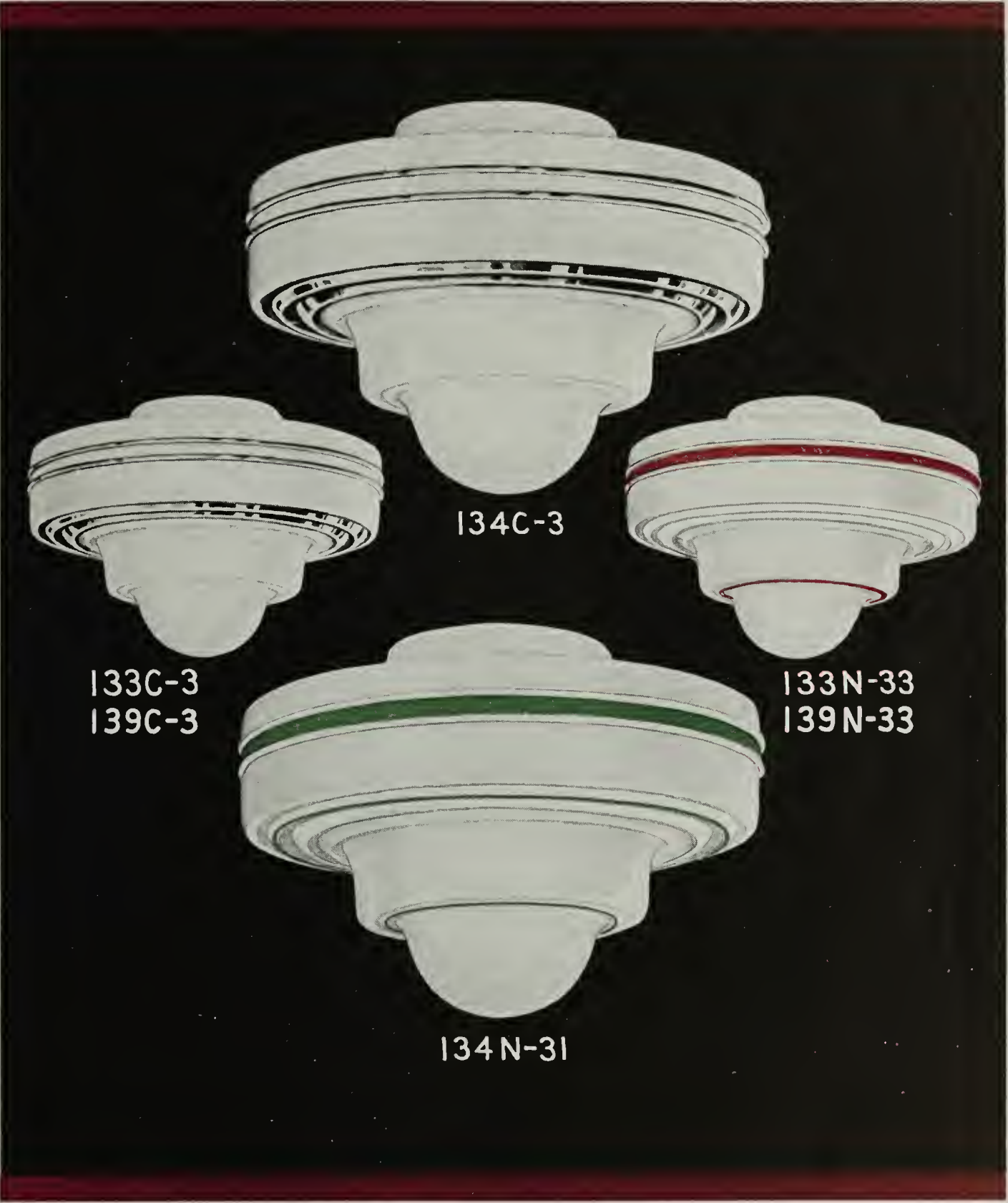
C-3 Crystal Enameled

Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
122C-3	9	4	6½	75-100	12	29 lbs.
123C-3	15	6	10½	200-300	2	16 lbs.
142C-3	7	4	5	75-100	12	19 lbs.
143C-3	12	6	8½	200-300	2	13 lbs.

*Order by Number and Decoration Letter and Number*

# THE 133 LINE—One-Piece Units—Crystal Glass Enameled, with Clear Diffusing Bottom, and Nicco Opal Glass

*Designed with shoulder to accommodate Glass Louvre*



The 133 Line is made in the following Sizes and Decorations:

Decoration Numbers and Descriptions:

133-134-139		133-134-139	
C-3	Crystal Enameled	N	Nicco Opal
C-30	Crystal Enameled, Black Lines	N-30	Nicco, Black Lines
C-31	Crystal Enameled, Green Lines	N-31	Nicco, Green Lines
C-33	Crystal Enameled, Ruby Lines	N-33	Nicco, Ruby Lines

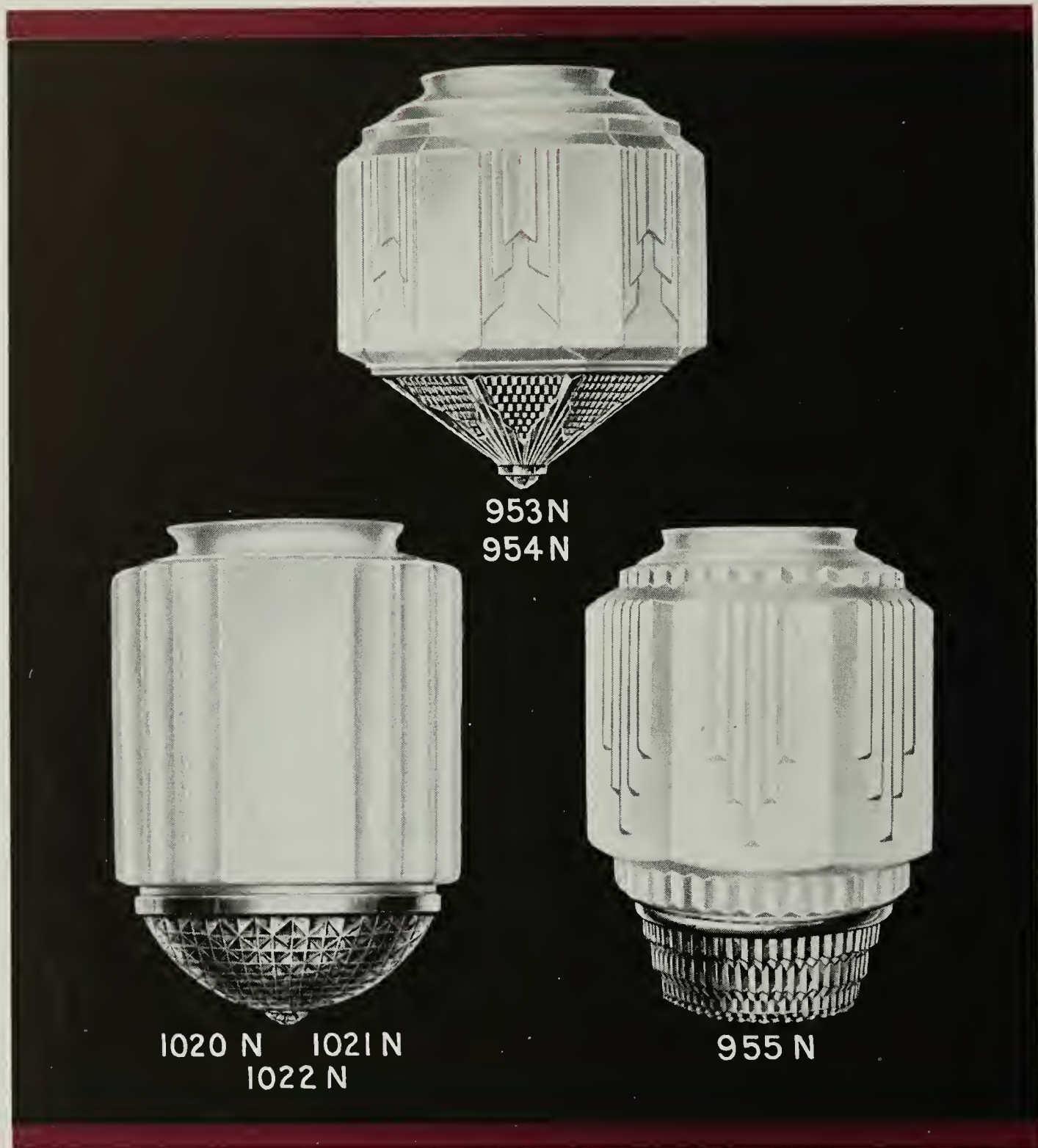
*Other Color Lines can be furnished if desired.*

Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
133	8½	4	6½	75-100	12	30 lbs.
134	14	6	10	200-300	2	17 lbs.
139	6½	4	4¾	60	12	19 lbs.

*Order by Number and Decoration Letter and Number*



# CRYSTAL BOTTOM UNITS FOR DIRECT LIGHT— Nicco Opal and Crystal Glass



Two-Piece Units, Nicco Opal Top, Crystal Glass Bottom

On Nos. 955, 1020, 1021 and 1022, the two Bowls are joined with metal connecting ring which is Spun Brass Nickel Plated.

Nos. 953 and 954 are without metal connecting ring; the Crystal Bowl is inserted in bottom of the Nicco Opal Bowl.

Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
953N	12	6	13	200-300	1	10 lbs.
954N	8	4	8 $\frac{3}{4}$	75-100	6	21 lbs.
955N	10	6	13	200-300	1	8 lbs.
1020N	9	6	12 $\frac{1}{4}$	200-300	1 & 2	7 & 14 lbs.
1021N	10 $\frac{1}{2}$	6	15 $\frac{3}{4}$	200-300	1	9 lbs.
1022N	7 $\frac{1}{8}$	4	9 $\frac{1}{2}$	75-100	6	21 lbs.

*Order by Number and Decoration Letter*

# KITCHEN, SUN PARLOR AND BATHROOM UNITS— Nicco Opal, and Crystal Glass Enameled



## Decoration Numbers and Descriptions:

122-142-152-1309

C-3 Crystal Enameled, Clear Bottom

133-139

C-3 Crystal Enameled, Clear Bottom

C-30 Crystal Enameled, Black Lines

N Nicco Opal

N-30 Nicco, Black Lines

Other color lines can be furnished if desired

137 1/2-141 1/2

C-3 Crystal Enameled, Clear Bottom

N Nicco Opal

N-33 Nicco, Ruby Lines (three lines on bottom)

Other color lines can be furnished if desired

1207-1209

C-3 Crystal Enameled, Clear Bottom

N Nicco Opal

N-23 Nicco, Platinum Lines

N-30 Nicco, Black Lines (three lines on bottom)

Other color lines can be furnished if desired

Number	Diameter Inches	Fitter Inches	Depth Inches	Lamp Recommendation Watts	Quantity to Standard Package	Approximate Shipping Weight
122	9	4	6 1/2	75-100	12	29 lbs.
133	8 1/2	4	6 1/2	75-100	12	30 lbs.
137 1/2	6 1/2	4	4 1/2	60	12	20 lbs.
139	6 1/2	4	4 7/8	60	12	19 lbs.
141 1/2	9	4	6 1/2	100	12	35 lbs.
142	7	4	5	75-100	12	19 lbs.
152	4	3 1/4	7	75	12	18 lbs.
1207	6 7/8	4	6 3/4	75-100	12	30 lbs.
1209	8 1/2	4	9	150	8	28 lbs.
1309	9	4	7 1/4	75-100	12	29 lbs.

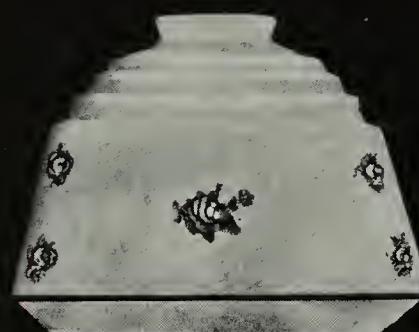
Order by Number and Decoration Letter and Number



# KITCHEN, BREAKFAST ROOM, SUN PARLOR, BATHROOM AND BEDROOM SHADES—Nicco Opal and Ivory Glass, Plain and Decorated



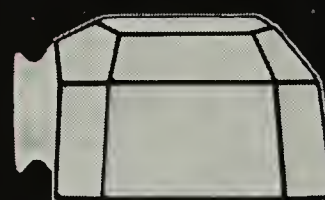
201 N-18  
201 I-18



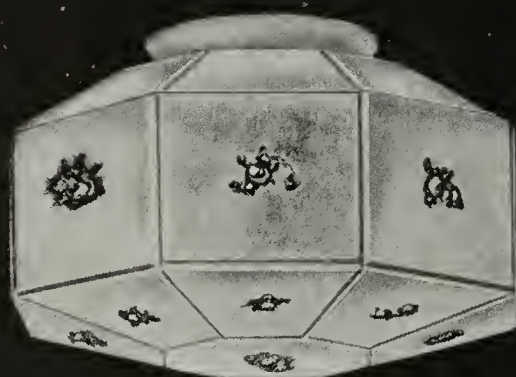
967 N-18  
967 I-18



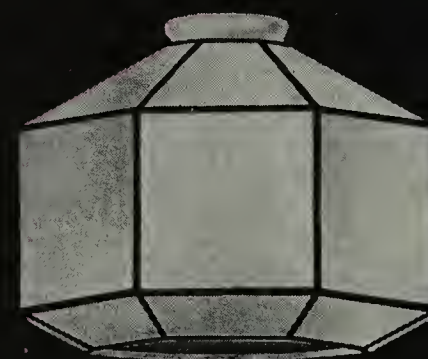
147N-18 147I-18



146 N-23



148 N-18  
148 I-18



149 N-3

## Decoration Numbers and Descriptions:

### 147-148-149

N Nicco Opal  
N-3 Nicco, Black Lines  
N-23 Nicco, Platinum Lines  
N-18 Nicco, Dresden Flower Decoration  
I Ivory  
I-18 Ivory, Dresden Flower Decoration

### 146

N Nicco Opal  
N-3 Nicco, Black Lines  
N-23 Nicco, Platinum Lines

### 201-967

N Nicco Opal  
N-18 Nicco, Dresden Flower Decoration  
I Ivory  
I-18 Ivory, Dresden Flower Decoration

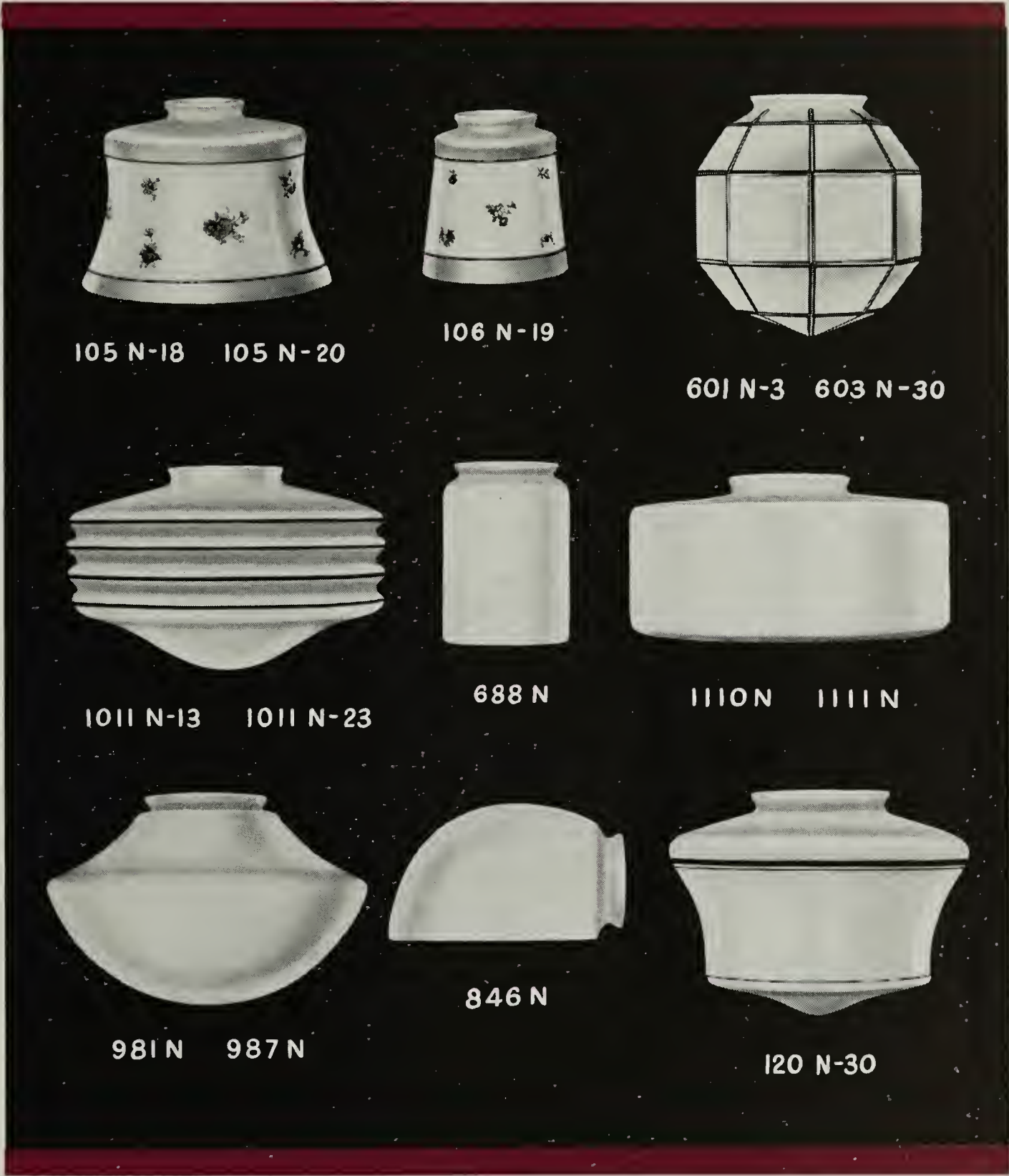
Number	Diameter Inches	Fitter Inches	Depth Inches	Quantity to Standard Package	Approximate Shipping Weight
146	5 1/4 x 4	2 1/4	3 1/4	12 & 36	10 & 34 lbs.
147	4	2 1/4	4	12 & 36	12 & 34 lbs.
148	9	4	5 1/2	12	27 lbs.
*149	7 1/4	2 1/4	5 1/4	12	21 lbs.
201	6	2 1/4	4 1/2	12	12 lbs.
‡967	7	2 1/4	5 1/4	12	19 lbs.

\*Number 149 has 5 1/4" bottom opening.

‡Number 967 has 5 1/2" bottom opening.

*Order by Number and Decoration Letter and Number*

# KITCHEN, BREAKFAST ROOM, SUN PARLOR, BATHROOM AND BEDROOM SHADES—Nicco Opal Glass, Plain and Decorated



## Decoration Number and Descriptions:

105-106-120		120-846		688-1011-1110-1111	
N-18	Dolly Varden, Canary Tinting	N	Nicco Opal	N	Nicco Opal
N-19	Dolly Varden, Pink Tinting	N-30	Nicco, Black Lines	N-13	Nicco, Black Lines
N-20	Dolly Varden, Blue Tinting	N-31	Nicco, Green Lines	N-23	Nicco, Platinum Lines
601-603		N-33	Nicco, Ruby Lines	981-987	
C-2	Crystal Etched, Clear Stripe			N	Nicco Opal
N-3	Nicco, Gold Stripe				
N-30	Nicco, Black Stripe				
				Quantity to	Approximate
Number	Diameter Inches	Fitter Inches	Depth Inches	Standard Package	Shipping Weight
105	7	2 1/4	4 3/4	12	19 lbs.
106	3 7/8	2 1/4	4 1/4	12	9 lbs.
120	8 5/8	4	6 1/4	12	20 lbs.
601	5 1/2	3 1/4	6	12	18 lbs.
603	8	4	8	4	20 lbs.
688	3 3/4	3 1/4	5 1/4	12	9 lbs.
846	5 3/4 x 4	2 1/4	3 1/4	12 & 36	10 & 26 lbs.
981	8 1/2	4	5 1/2	12	22 lbs.
987	10	4	6 1/4	6	22 lbs.
1011	10	4	6 1/2	6	22 lbs.
1110	10	4	5 1/4	6	21 lbs.
1111	8	4	5 1/4	8	24 lbs.

Order by Number and Decoration Letter and Number



## EXIT AND SIGN BALLS—Nicco Opal and Colored Glass



841—R-1 Exit—3" Letters, Black or White  
841—G-2 Exit—3" Letters, Black or White  
For Side Bracket



841—R-1 Exit—3" Letters, Black or White  
841—G-2 Exit—3" Letters, Black or White  
For Ceiling Fitter  
(See Special Note)



841—N-4—3" Letters, Black  
948—N-4—4" Letters, Black  
For Side Bracket



841—R-1 Stairs—3" Letters, Black or White  
948—R-1 Stairs—4" Letters, Black or White  
For Side Bracket



6" Exit Ball R, 3" Letters, Black or White  
8" Exit Ball R, 4" or 6" Letters, Black or White  
(See Special Note)



841—N-5—3" Letters, Black  
948—N-5—4" Letters, Black  
For Side Bracket



871—G-2  
3" Letters, Green



842—R-1—3" Letters, Red



872—R-1  
3" Letters, Red

### Decoration Numbers and Descriptions:

841-948

- R-1 Ruby, Roughed Inside "Exit" in Black or White
- G-2 Green, Roughed Inside "Exit" in Black or White
- R-1 Ruby, Roughed Inside, "Stairs" in Black or White
- N-4 Nicco, "Men" in Black
- N-5 Nicco, "Women" in Black
- N-6 Nicco, "Exit" in Black
- N Nicco Opal

6" and 8" Ball

- R Ruby, Roughed Inside "Exit" in Black or White one or two sides

842

- R-1 Ruby, Roughed Inside "Exit" on Black Enameled background
- G-2 Green, Roughed Inside "Exit" on Black Enameled background

871

- C-1 Crystal, Roughed Inside "Up" on Black Enameled background
- G-2 Green, Roughed Inside "Up" on Black Enameled background

872

- R-1 Ruby, Roughed Inside "Down" on Black Enameled background

Number	Diameter Inches	Fitter Inches	Depth Inches	Quantity to Standard Package	Approximate Shipping Weight
6" Ball	6	3 1/4 & 4	6	12	15 lbs.
8" Ball	8	3 1/4 & 4	8	8	21 lbs.
841	4 1/2 x 4 1/2	3 1/4	5 1/4	6 & 12	9 & 16 lbs.
842	6	3 1/4	6	6 & 12	15 & 21 lbs.
871	6	3 1/4	6	6 & 12	15 & 21 lbs.
872	6	3 1/4	6	6 & 12	15 & 21 lbs.
948	5 1/2 x 5 1/2	4	7	12	21 lbs.

SPECIAL NOTE:—When ordering Nos. 841 and 948 be sure to state style Fitter on which Globes are to be used, whether CEILING TYPE or SIDE BRACKET. On Colored Globes state color lettering desired, BLACK or WHITE. When ordering 6" and 8" Ball Globes—state size Fitter wanted, size lettering desired, color lettering—BLACK or WHITE, and if to be lettered one or two sides. Also specify whether desired INVERTED, as shown, or for use in UPRIGHT POSITION.

Order by Number and Decoration Letter and Number

## EXIT AND SIGN BALLS—Nicco Opal and Colored Glass



849—N-6—5" Letters Black  
850—N-6—5" Letters Black  
For Side Bracket  
Also furnished for Ceiling Fitter



947A—R-1—4" Letters, White or Black  
947A—G-2—4" Letters, White or Black



948—R-1 Exit—4" Letters, Black or White  
948—G-2 Exit—4" Letters, Black or White  
For Side Bracket  
Also furnished for Ceiling Fitter



847—R-1—2" Letters, White  
or Black



949 N-4 Barber Shop  
949½ N-4 Barber Shop  
(See Special Note)



958—R-1—3" Letters  
White or Black  
958—G-2—3" Letters  
White or Black

### Decoration Numbers and Descriptions:

849-850-947A-948-958

R-1 Ruby, Roughed Inside "Exit" in Black or White  
G-2 Green, Roughed Inside "Exit" in Black or White  
N-6 Nicco "Exit" in Black

847

R Ruby, Roughed Inside  
R-1 Ruby, Roughed Inside "Exit" in Black or White

949-949½

N Nicco Opal  
N-4 Nicco "BARBER SHOP", Lettering in  
Black border in Red and Blue

Number	Diameter Inches	Fitter Inches	Depth Inches	Quantity to Standard Package	Approximate Shipping Weight
847	4½	2¼	4¼	12	9 lbs.
849	7¼ x 6½	3¼	8¾	8	27 lbs.
850	7¼ x 6½	4	8¾	8	27 lbs.
947-A	7 x 7	4	7¼	8	30 lbs.
948	5½ x 5½	4	7	12	21 lbs.
949	12	6	12	1 & 2	9 & 17 lbs.
949½	12	4	12	1 & 2	9 & 17 lbs.
958	6	3¼	6	12	21 lbs.

SPECIAL NOTE:—Nos. 949 and 949½ are lettered for use in UPRIGHT or INVERTED position. When ordering be sure to state position in which Globe is to be used.

When ordering Nos. 849, 850 and 948, state style Fitter on which Globes are to be used, whether CEILING FITTER or SIDE BRACKET. On colored Globes state color lettering desired—BLACK or WHITE.

*Order by Number and Decoration Letter and Number*



# SHADES FOR STUDY AND READING LAMPS—Utopia Opal and Nicco Opal Glass. Ball Globes—Nicco Opal Heat Resisting Glass



## Decoration Numbers and Descriptions:

200-201-619-758  
N Nicco Opal  
202-203-203 ½-209-210-211-213  
U Utopia Opal  
Ball Globes—5", 7" and 9"  
N Nicco Opal

Ball Globes—6", 8", 10", 12", 14" and 16"  
N Nicco Opal  
R Ruby Plain  
G Green Plain  
CRI Crystal Roughed Inside

Number	Diameter Inches	Fitter Inches	Depth Inches	Length Shank Inches	Quantity to Standard Package	Approximate Shipping Weight
5-inch Ball	5	3 ¼	5		12	13 lbs.
6-inch Ball	6	3 ¼ & 4	6		12	15 lbs.
7-inch Ball	7	3 ¼	7		12	25 lbs.
8-inch Ball	8	3 ¼ & 4	8		8	21 lbs.
9-inch Ball	9	4, 5 & 6	9		6	18 lbs.
10-inch Ball	10	4, 5, 6 & 7	10		4	17 lbs.
12-inch Ball	12	4, 5, 6, 7 & 8	12		2	12 lbs.
14-inch Ball	14	6, 7, 8 & 9	14		1	10 lbs.
16-inch Ball	16	6, 7, 8, 9 & 9 ¾	16		1	12 lbs.
200	5 ¾	2 ¼	4		12 & 36	9 & 25 lbs.
201	6 ¾	2 ¼	4 ½		12	12 lbs.
202	8	2 ¼	6 ¼		6	11 lbs.
203	10	2 ¼	5 ¼		6	14 lbs.
203 ½	10	3 ¼	5 ¼		6	14 lbs.
209	9 ¾	2 ¾	6 ¾	7 8	6	14 lbs.
210	10	2 ¾	5 ¾		6	14 lbs.
211	10	2 ¾	6 ¾	1 ½	6	14 lbs.
213	10	3 ¼	6 ¼		6	14 lbs.
619	7 ¾	2 ¼	5 ¼		12	19 lbs.
758	5 ¾	2 ¼	4 ¾		12	14 lbs.

NOTE:—When ordering Balls be sure to state Fitter desired, as well as Glass. Balls can be furnished with Aluminum or Copper Ring if required. Price quoted on application.

Order by Number and Decoration Letter



# KOPP GLASS,

custom-made products  
for industrial use

useful engineering properties

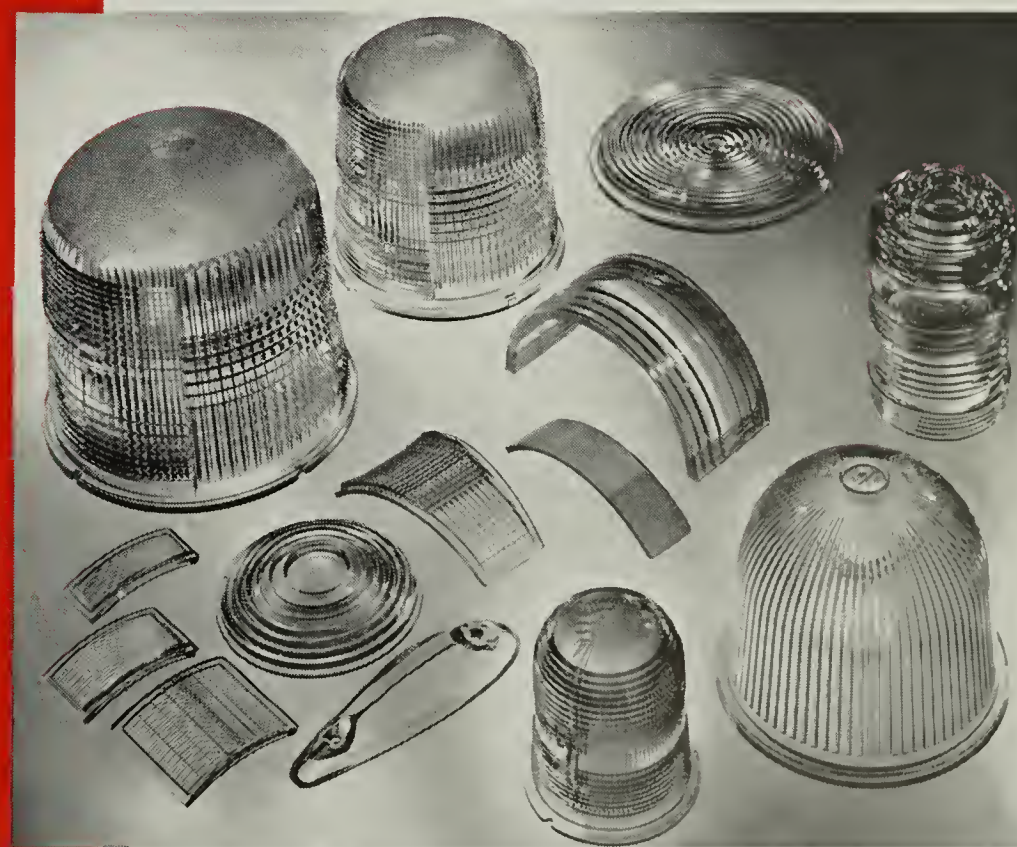
specially designed

made to specifications



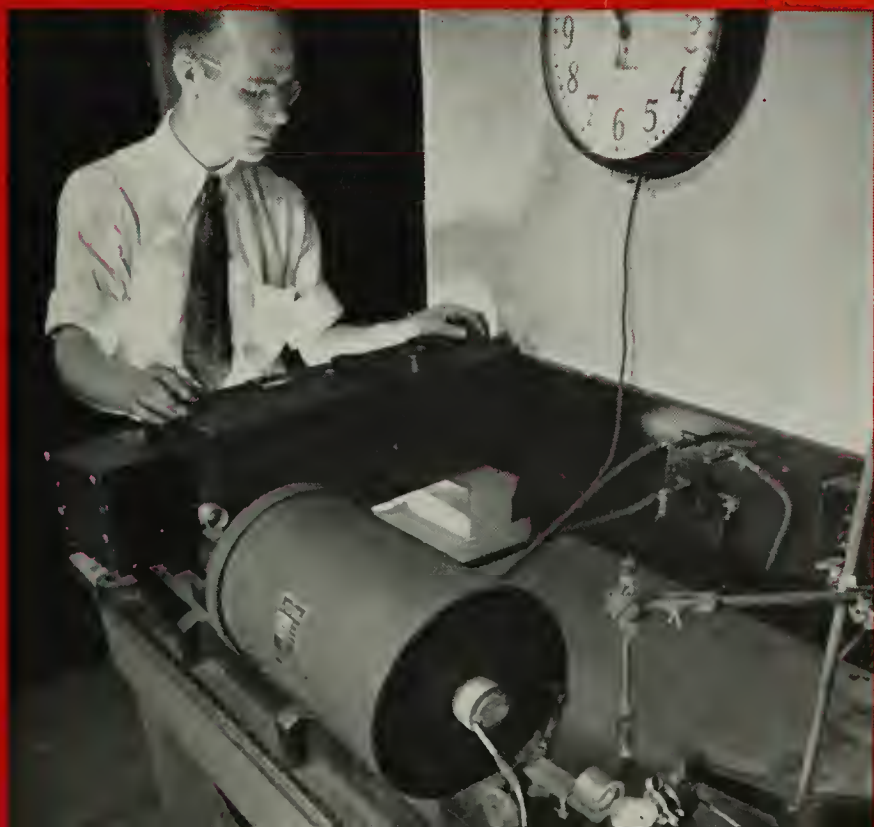
Sight glasses must be strong, clear, durable.

Spectro-photometer used in Kopp Research studies of the light transmission properties of various types of glass.



Specialized beam-control lenses.

KOPP GLASS, INC.





# The many useful properties available in **KOPP GLASS** *make products MORE BEAUTIFUL AND MORE SERVICEABLE*

**M**ODERN glass presents a variety of properties that the engineering designer and manufacturer can use to add to the sales appeal and utility of many types of products. These product advantages come about because glass won't burn, warp, shrink or rust; it is hard, won't scratch easily or deteriorate. It is non-porous, comparatively inert chemically, can be readily shaped by moulding, provides a pleasing appearance — either opaque or transparent — and faithfully reproduces desired colors. It is resistant to thermal and physical shock. It can be made transparent in varying degrees, and made to transmit or prevent the transmission of parts of the spectrum from ultra-violet to infra-red.

Kopp designs and makes lenses that will concentrate a beam of light within a limited area, or diffuse

the light over a broad space, or direct selected portions in definite paths. Where intense light without heat is desired, heat absorbing glass prevents the passage of heat rays.

Glass is impervious to the seepage of ordinarily handled gases and liquids, is unaffected by most substances that corrode other materials, has a controllable expansion coefficient and high dielectric strength.

Many of these properties can be combined in glass, to provide a substance having physical characteristics no other material can offer. Thus, Kopp glass is frequently found to be the answer to engineering problems requiring a material having an unusual combination of properties.

## Attainable Characteristics:

**K**OPP provides, through correct engineering and manufacturing processes, types of glass having various desired characteristics and combinations of properties. The properties can be controlled within certain limits, the degree being a matter for individual consideration. Kopp's broad experience and modern research facilities enable our engineers to offer a solution for many specialized problems involving such characteristics as:

Transmission of selected portions of the spectrum (producing colors, heat rays, black light, etc.).

Resistance to abrasion, heat, impact, thermal shock.

Resistance to corrosion and weathering.

Controlled light distribution (beam control) — concentrated, diffused, deflected — or a combination of these.

Specified coefficient of expansion, to match a metal or other material as for glass-to-metal seals and other uses.

High dielectric strength combined with other properties, desirable for electrical applications.

Precision finishing and dependable dimensional stability.



Beam control lenses include condensing, diffusing and deflecting types.



Indicator glasses are made to wide variety of specifications.



# Kopp Engineering Service

## *develops designs for users' needs*

**K**OPP Glass offers an engineering service that is based upon long experience and skill in glass technology, supplemented by research studies in our modern laboratory.

Through this service, Kopp engineers collaborate with users and prospective users of glass to develop designs suited for particular needs. Special consideration is given to such matters as: engineering design of the item; conditions requiring special properties such as hardness, strength, corrosion resistance; dimensional accuracy; smoothness; permissible tolerances in size, shape and color; light transmission.

Based upon a knowledge of the conditions to be fulfilled, Kopp engineers develop the design, select the type of glass and decide upon the best method of forming the part. They design the moulds and work out the necessary heat treatments. Because each new application presents new problems, the services offered by the Kopp Engineering Department are exceptionally useful to manufacturers contemplating the use of glass.

### **Manufacturing Procedure Closely Controlled**

In order that Kopp glass parts will fulfill the requirements of the user, they are manufactured under close control and constant checking.

The success of the part starts with the correct design and manufacture of the mould. Extreme accuracy is required and thorough knowledge of

moulding practice is needed to assure a finished product that meets the user's specifications.

The exact proportioning and mixing of ingredients comprising the batch are also of vital importance. Each batch or melt is processed individually according to the time and temperature cycle established by the Engineering Department for the product.

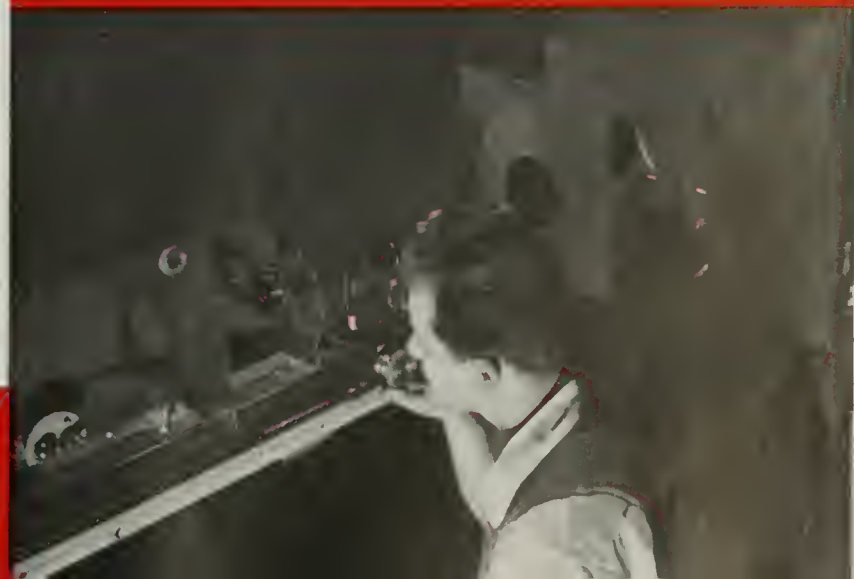
Where parts are used for a type of service that requires glass of high strength, resistance to thermal and impact shock and other severe conditions, a specified percentage of normal production is tested to destruction to be sure that the specifications are being met.

A final inspection is made of each piece before packing for shipment, as a final guarantee of quality. Thus, from raw materials, through every step of manufacture, KOPP quality control protects the purchaser.



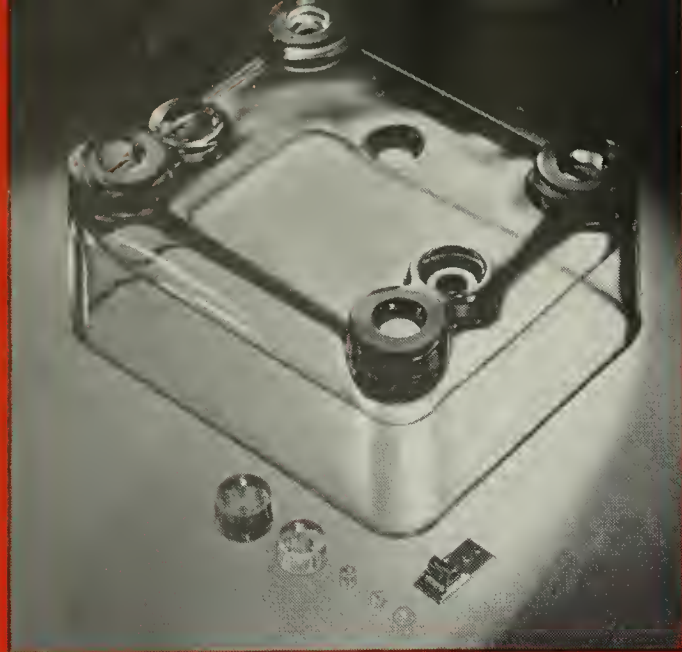
This small integrating sphere is used to determine accurately the light output of small test lamps. A larger sphere is used for larger lamps.

Each piece of specification glass is tested on this highly accurate photometric bench, to check color and transmission of light.



Representative types of filters, used to transmit colors, infra-red or ultra-violet rays.





An instrument case, small glass parts and a cam rider.

Kopp products are made in many shapes, sizes and colors.



# KOPP GLASS, INC.

## SWISSVALE, PA.

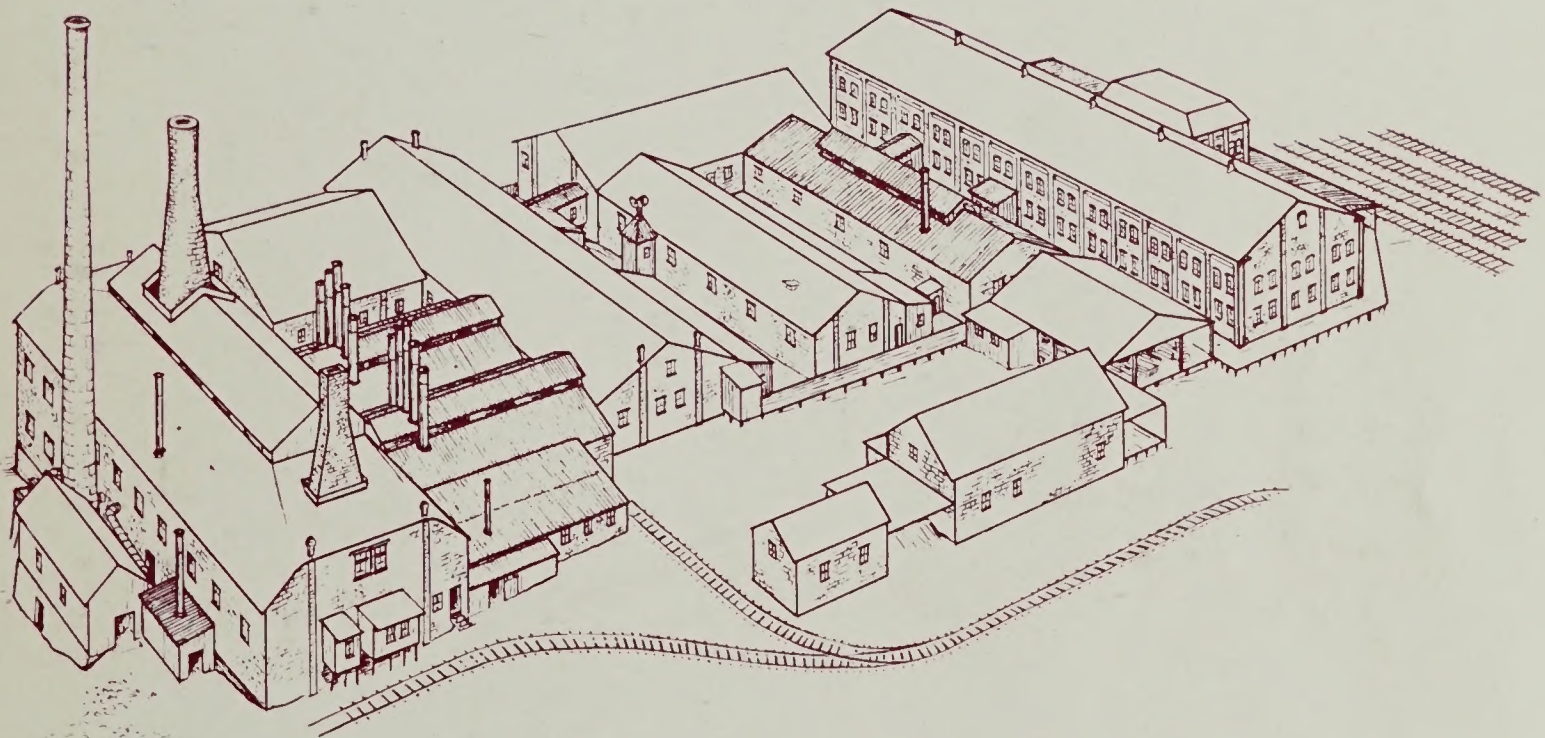
Branch Offices: New York 17, New York, 1 East 42nd Street  
Chicago, Forest Park, Ill., 7520 West Madison St.



In Kopp laboratories, skilled technicians check new designs and production samples of lenses, using modern precision equipment.







*General Offices and Factory*

**KOPP GLASS, INCORPORATED**  
**SWISSVALE, PA.**

*On Main Line of the Pennsylvania Railroad Eight Miles East of Pittsburgh*











